110kV Oil-immersed Power Transformer

Implement GB1094, GB6451 and Other National Standards

Apply to power plant (station), substation (power distribution station) and industrial etc

Product Model Example

SZ18-50000/110-NX3

SZ20-31500/110-NX2

SZ22-20000/110-NX1

PRODUCT PARAMETERS

Executive Standard: IEC、GB、ANSI/IEEE、KEMA

Capacity：6300KVA-180000KVA

Rated Voltage On The Primary Side: 110KV-121KV

Rated Voltage On The Secondary Side:6.3KV-38.5KV

Number of Tap Changer Gears: 5-17

Frequency：50/60 Hz

Number of Phases: Three-phase

Connection group:Yd11/YNd11, etc

Impedance: 10%-14%

PRODUCT OVERVIEW

The iron core of the 110kV oil immersed electric transformer is made of high-quality oriented silicon steel and multi-stage stepped stacking, and surface coated with curing paint. It has the characteristics of low loss and low noise. The coil adopts internal and external brace structure, and the high-strength cardboard tube structure is adopted between the coil and the iron core and between the coil, so as to effectively ensure the short-circuit impact resistance. The wall of oil tank adopts a molding bending corrugated structure to increase the mechanical strength and has a beautiful and elegant appearance. A comprehensive positioning structure is adopted between the body and the fuel tank to ensure transportation and stability.

PRODUCT FEATURES

Low loss: Meet the energy efficiency requirements in GB 20052-2020"Energy Efficiency Limits and Energy Efficiency Grades for Power Transformers" standard;
Low Noise: The self-cooling noise level will reach below 60dB
Low Partial Discharge: Control the partial discharge volume below 100pc
Strong Short-circuit Resistance: The coil is supported by a highquality insulation frame inside, and the side wall of the fuel tank is formed by laser cutting in one time
Beautiful Appearance: Full polishing and rust removal, powder electric spray paint can achieve the effect of home appliance painting
No Leakage: The sealing flange adopts a groove structure, the oil discharge valve adopts a copper valve, and the radiator adopts a vacuum butterfly valve to ensure sealing performance

Rated Capacity KVA	Level 1		Level 2		Level 3		Short Circuit Impedance %
	No-load loss W	Load Loss W	No-load loss W	Load Loss W	No-load loss W	Load Loss W	
6300	4.1	32	4.8	38	5.9	33	10.5
8000	4.9	38	5.8	38	7.1	40	
10000	5.8	45	6.8	45	8.4	48	
12500	6.8	53	8.1	53	9.9	56	
16000	8.3	65.7	9.8	65.7	12.0	69	
20000	9.7	79	11.4	79	14.1	84	
25000	11.4	94	13.5	94	16.6	99	
31500	13.5	111	16.0	111	19.7	117	
40000	16.2	133	19.1	133	23.5	141	
50000	19.4	158	22.9	158	28.2	166	
63000	22.9	187	27.0	187	33.3	198	
80000	26.0	212	30.7	212	37.8	224	12~14
100000	29.9	245	35.4	245	43.5	258	

Note: The data in the table is for reference only. The company reserves the right to make changes to the data and accept special orders

WELTRUS

35kV Oil-immersed Power Transformer

Implement GB1094, GB6451 and Other National Standards

Apply to power plant (station), substation (power distribution station) and industrial etc

Product Model Example

SZ18-10000/35-NX3

SZ20-20000/35-NX2

SZ22-31500/35-NX1

PRODUCT PARAMETERS

Executive Standard: IEC、GB、ANSI/IEEE、KEMA

Capacity：50KVA-40000KVA

Rated Voltage On The Primary Side: 33KV-38.5KV

Rated Voltage On The Secondary Side: 0.4KV~11kV

Number of Tap Changer Gears: 5-9

Frequency：50/60 Hz

Number of Phases: Three-phase

Connection group: Dyn11/Yyn0/Yd11/YNd11, etc

Impedance: 6.5%-10%

PRODUCT OVERVIEW

35KV oil immersed power transformer power system substation and 35KV user station, using high magnetic voltage oriented cold-rolled silicon steel sheets as the iron core, cake structure as the coil, molded insulation parts as the body, bell shaped as the oil tank, and expansion type oil storage tank, which have a beautiful and generous appearance.

PRODUCT FEATURES

Low Loss: Meet the energy efficiency requirements in GB 20052-2020 "Energy Efficiency Limits and Energy Efficiency Grades for Power Transformers" standard;
Low Noise: The self-cooling noise level will reach below 60dB
Low Partial Discharge: Control the partial discharge volume below 100pc
Strong short-circuit resistance: The coil is supported by a highquality insulation frame inside, and the side wall of the fuel tank is formed by laser cutting in one time
Beautiful appearance: Full polishing and rust removal, powder electric spray paint canachieve the effect of home appliance painting
No leakage: The sealing flange adopts a groove structure, the oil discharge valve adopts a copper valve, and the radiator adopts a vacuum butterfly valve to ensure sealing perf

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Rated Capacity KVA	Level 1		Level 2		Level 3		Short Circuit Impedance %
	No-load loss W	Load Loss W	No-load loss W	Load Loss W	No-load loss W	Load Loss W	
3150	1.7	20.7	2.0	20.7	2.4	21.9	7
4000	2.0	24.6	2.3	24.6	2.9	25.9	
5000	2.4	28.2	2.8	28.2	3.5	29.7	
6300	2.9	31.5	3.4	31.5	4.2	33.3	8
8000	4.0	34.6	4.7	34.6	5.8	36.5	
10000	4.8	40.8	5.7	40.8	7.0	43.0	
12500	5.5	48.4	6.5	48.4	8.0	51.1	
16000	6.7	59.2	7.9	59.2	9.7	62.5	
20000	7.9	71.6	9.4	71.6	11.5	75.5	
25000	9.4	84.6	11.1	84.6	13.6	89.3	10
31500	11.1	100.8	13.1	100.8	16.2	106.4	

Note: The data in the table is for reference only. The company reserves the right to make changes to the data and accept special orders

WELTRUS

10kV Oil-immersed Power Transformer

Implement GB1094, GB6451 and Other National Standards

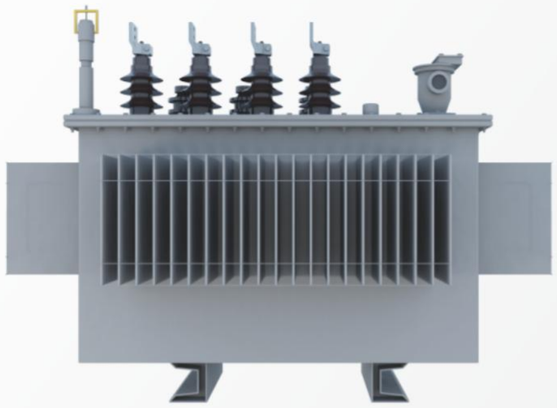
Apply to residential communities, commercial centers, factories and mining enterprises, airports, stations, schools and other places

Product Model Example:

S13-500/10-NX3

S20-1250/10-NX2

S22-2500/10-NX1



PRODUCT PARAMETERS

Executive Standard: IEC、GB、ANSI/IEEE、KEMA
Capacity：30KVA-2500KVA
Rated Voltage On The Primary Side: 6KV-35KV
Rated Voltage On The Secondary Side: 0.4KV
Number of Tap Changer Gears: 5
Frequency：50/60 Hz
Number of Phases: Three-phase
Connection group: Dyn11/Yyn0, etc
Impedance: 4%-6.5%

PRODUCT OVERVIEW

The oil immersed stacked iron core distribution transformer has the advantages of compact structure, beautiful appearance, small size, low temperature rise noise, strong overload capacity, good electrical and mechanical performance, and reliable operation. Energy saving products are achieved by our company through the research and application of new materials and processes, as well as the combination of independent innovation and technology introduction. Through the optimization and innovative design of the iron core and coil structure, the goal of reducing no-load losses and noise is achieved. The product adopts advanced technology and equipment both domestically and internationally, and is professionally developed. The iron core is made of highperformance cold-rolled oriented silicon steel sheets, and is equipped with a fully automatic robot laminating machine. The cutting burrs are small and the lamination coefficient is low, effectively reducing the no-load loss, no-load current, and noise of the transformer. The no-load loss is reduced by 5%-10% compared to manual lamination.

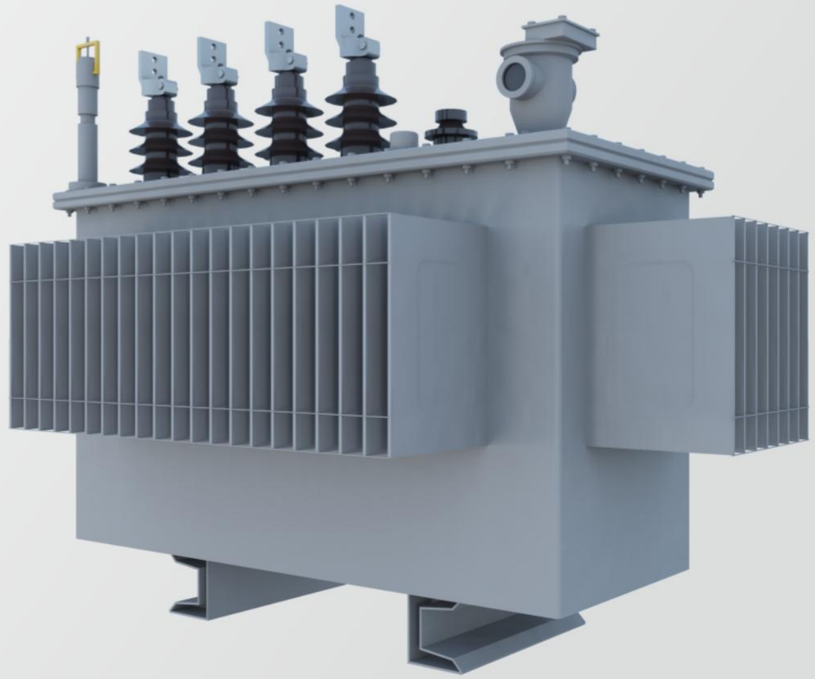
PRODUCT FEATURES

Low Loss: Meet the energy efficiency requirements in GB 20052-2020 "Energy Efficiency Limits and Energy Efficiency Grades for Power Transformers" standard;
Low noise: meet the requirements of the low noise standard of the State Grid and South Network;
Strong short-circuit resistance: Low voltage coils are wound with copper foil,while high voltage coils are formed by pressing and baking with adhesive paper, resulting in high mechanical strength;
Beautiful appearance: Full polishing and rust removal, powder electric spray paint can achieve the effect of home appliance painting

WELTRUS

Rated Capacity KVA	Level 1			Level 2			Level 3			Short Circuit Impedance %
	Electrical Steel Strip			Electrical Steel Strip			Electrical Steel Strip			
	No-load loss W	Load Loss W		No-load loss W	Load Loss W		No-load loss W	Load Loss W		
		Dyn11/Yzn11	Yyn0		Dyn11/Yzn11	Yyn0		Dyn11/Yzn11	Yyn0	
30	65	455	430	70	505	480	80	630	600	4.0
50	80	655	625	90	730	695	100	910	870	
63	90	785	745	100	870	830	110	1090	1040	
80	105	945	900	115	1050	1000	130	1310	1250	
100	120	1140	1080	135	1265	1200	150	1580	1500	
125	135	1360	1295	150	1510	1440	170	1890	1800	
160	160	1665	1585	180	1850	1760	200	2310	2200	
200	190	1970	1870	215	2185	2080	240	2730	2600	
250	230	2300	2195	260	2560	2440	290	3200	3050	
315	270	2760	2630	305	3065	2920	340	3830	3650	
400	330	3250	3095	370	3615	3440	410	4520	4300	
500	385	3900	3710	430	4330	4120	480	5410	5150	
630	460	4460		510	4960		570	6200		4.5
800	560	5400		630	6000		700	7500		
1000	665	7415		845	8240		830	10300		
1250	780	8640		870	9600		970	12000		
1600	940	10440		1050	11600		1170	14500		
2000	1085	13180		1225	14640		1360	18300		5.0
2500	1280	13360		1440	14840		1600	21200		

Note: The data in the table is for reference only. The company reserves the right to make changes to the data and accept special orders



WELTRUS

10kV Oil Immersed Three-dimensional Coil Core Transformer

Implement GB1094, GB6451 and Other National Standards

Apply to residential communities, commercial centers, factories and mining enterprises, airports, stations, schools and other places

Product ModelExample:

S13-M.RL-400/10-NX3;

S20-M.RL-500/10-NX2;

S22-M.RL-630/10-NX1

PRODUCT PARAMETERS

Executive Standard: IEC、GB、ANSI/IEEE、KEMA
Capacity：30KVA-2500KVA
Rated Voltage On The Primary Side: 6KV-35KV
Rated Voltage On The Secondary Side: 0.4KV
Number of Tap Changer Gears: 5
Frequency：50/60 Hz
Number of Phases: Three-phase
Connection group: Dyn11/Yyn0, etc
Impedance: 4%-6.5%

PRODUCT OVERVIEW

The three-dimensional coil iron core liquid immersed distribution transformer breaks through the traditional flat structure. The three-phase magnetic circuit is completely symmetrical, and the three-phase current is balanced; Smaller volume and weight, less material usage, and higher utilization rate of iron core materials; High reliability and long operating life. The three-phase magnetic circuit has no seams, and the magnetic flux direction is completely consistent with the crystal orientation of the silicon steel sheet, the no-load loss, no-load current, and noise are greatly reduced.

PRODUCT FEATURES

Low Loss: Meet the energy efficiency requirements in GB 20052-2020 "Energy Efficiency Limits and Energy Efficiency Grades for Power Transformers" standard;
Low noise: meet the requirements of the low noise standard of the State Grid and South Network;
Strong short-circuit resistance: Low voltage coils are wound with copper foil, while high voltage coils are formed by pressing and baking with adhesive paper, resulting in high mechanical strength;
Beautiful appearance: Full polishing and rust removal, powder electric spray paint can achieve the effect of home appliance painting

WELTRUS

Rated Capacity KVA	Level 1						Level 2						Level 3						Short Circuit Impedance %
	Electrical Steel Strip			Amorphous Alloy			Electrical Steel Strip			Amorphous Alloy			Electrical Steel Strip			Amorphous Alloy			
	No-load loss W	Load Loss W		No-load loss W	Load Loss W		No-load loss W	Load Loss W		No-load loss W	Load Loss W		No-load loss W	Load Loss W		No-load loss W	Load Loss W		
		Dyn11/Yzn11	Yyn0		Dyn11/Yzn11	Yyn0		Dyn11/Yzn11	Yyn0		Dyn11/Yzn11	Yyn0		Dyn11/Yzn11	Yyn0		Dyn11/Yzn11	Yyn0	
30	65	455	430	25	510	480	70	505	480	33	535	510	80	630	600	33	630	600	4.0
50	80	655	625	35	735	700	90	730	695	43	780	745	100	910	870	43	910	8700	
63	90	785	745	40	880	840	100	870	830	50	930	890	110	1090	1040	50	1090	1040	
80	105	945	900	50	1060	1010	115	1050	1000	60	1120	1070	130	1310	1250	60	1310	1250	
100	120	1140	1080	60	1270	1215	135	1265	1200	75	1350	1285	150	1580	1500	75	1580	1500	
125	135	1360	1295	70	1530	1450	150	1510	1440	85	1615	1540	170	1890	1800	85	1890	1800	
160	160	1665	1585	80	1870	1780	180	1850	1760	100	1970	1880	200	2310	2200	100	2310	2200	
200	190	1970	1870	95	2210	2100	215	2185	2080	120	2330	2225	240	2730	2600	120	2730	2600	
250	230	2300	2195	110	2590	2470	260	2560	2440	140	2735	2640	290	3200	3050	140	3200	3050	
315	270	2760	2630	135	3100	2950	305	3065	2920	170	3275	3120	340	3830	3650	170	3830	3650	
400	330	3250	3095	160	3660	3480	370	3615	3440	200	3865	3675	410	4520	4300	200	4520	4300	
500	385	3900	3710	190	4380	4170	430	4330	4120	240	4625	4400	480	5410	5150	240	5410	5150	
630	460	4460		250	5020		510	4960		320	5300		570	6200		320	6200		4.5
800	560	5400		300	6075		630	6000		380	5415		700	7500		380	7500		
1000	665	7415		360	8340		845	8240		450	8800		830	10300		450	10300		
1250	780	8640		425	9720		870	9600		530	10260		970	12000		530	12000		
1600	940	10440		500	11745		1050	11600		630	12400		1170	14500		630	14500		
2000	1085	13180		550	14000		1225	14640		710	14800		1360	18300		720	18300		5.0
2500	1280	13360		670	15450		1440	14840		860	16300		1600	21200		865	21200		

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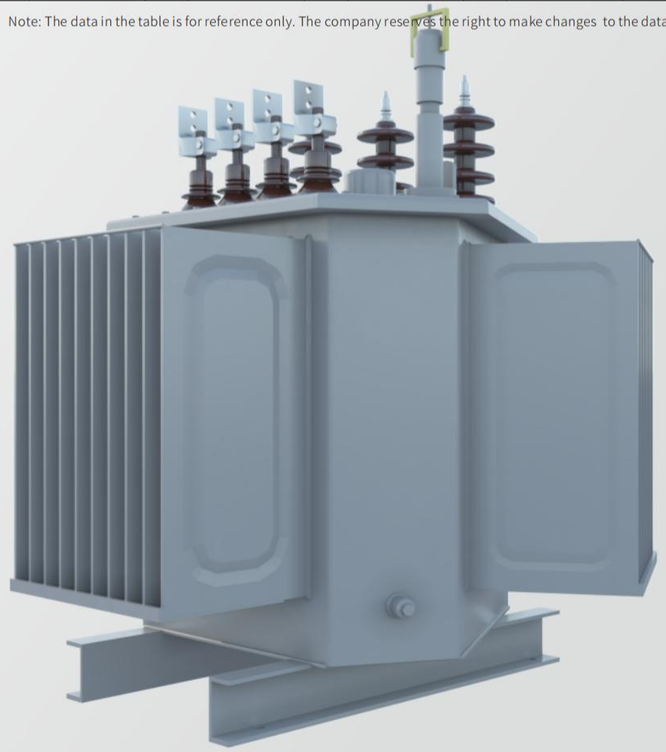


10kV Dry Type Transformer

Implement GB1094, GB6451 and Other National Standards

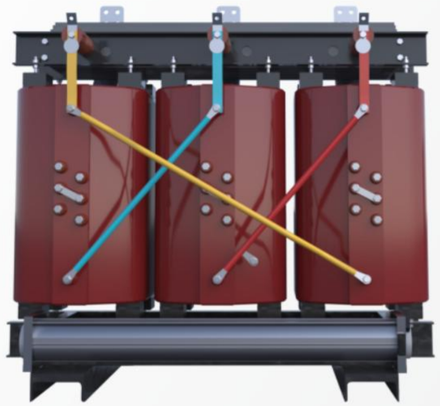
Applicable fields: residential communities, commercial centers, factories and mining enterprises, airports, stations, schools, etc

Product ModelExample:

SCB13-630/10-NX3;

SCB14-800/10-NX2;

SCB18-1000/10-NX1



PRODUCT PARAMETERS

Executive Standard: IEC、GB、ANSI/IEEE、KEMA

Capacity：30KVA-2500KVA

Rated Voltage On The Primary Side: 6KV-35KV

Rated Voltage On The Secondary Side: 0.4KV

Number of Tap Changer Gears: 5

Frequency：50/60 Hz

Number of Phases: Three-phase

Connection group: Dyn11/Yyn0, etc

Impedance: 4%-6%

PRODUCT OVERVIEW

The epoxy resin cast dry-type power transformer is made by advanced casting technology, with high reliability and long service life. And protective shells can be added according to different protection levels. It's suitable for important or special environmental locations such as high-rise buildings, commercial centers, airports, tunnels, chemical plants, nuclear power plants, etc. The iron core is made of high-performance cold-rolled oriented silicon steel sheets, and is equipped with a fully automatic robot laminating machine. The cutting burrs are small and the lamination coefficient is low, effectively reducing the no-load loss, no-load current, and noise of the transformer. The no-load loss is reduced by 5% -10% compared to manual lamination.

PRODUCT FEATURES

Low Loss: Meet the energy efficiency requirements in GB 20052-2020 "Energy Efficiency Limits and Energy Efficiency Grades for Power Transformers" standard;

Low noise: meet the requirements of the low noise standard of the State Grid and South Network;

Low partial discharge: The product only has extremely low partial discharge capacity, which can be controlled below 5PC.

High mechanical strength: The epoxy casting body has a dense curing structure that can withstand sudden short circuit electrodynamics forces without damage.

Rated Capacity KVA	Level 1				Level 2				Level 3				Short Circuit Impedance %
	Electrical Steel Strip				Electrical Steel Strip				Electrical Steel Strip				
	No-load loss W	Load Loss W			No-load loss W	Load Loss W			No-load loss W	Load Loss W			
		B (100℃)	F (120℃)	H (145℃)		B (100℃)	F (120℃)	H (145℃)		B (100℃)	F (120℃)	H (145℃)	
30	105	605	640	685	130	605	640	685	150	670	710	760	4.0
50	155	845	900	965	185	845	900	965	215	940	1000	1070	
80	210	1160	1240	1330	250	1160	1240	1330	295	1290	1380	1480	
100	230	1330	1415	1520	270	1330	1415	1520	320	1480	1570	1690	
125	270	1565	1665	1780	320	1565	1665	1780	375	1740	1850	1980	
160	310	1800	1915	2050	365	1800	1915	2050	430	2000	2130	2280	
200	360	2135	2275	2440	420	2135	2275	2440	495	2370	2530	2710	
250	415	2330	2485	2665	490	2330	2485	2665	575	2590	2760	2960	
315	510	2945	3125	3355	600	2945	3125	3355	705	3270	3470	3730	
400	570	3375	3590	3850	665	3375	3590	3850	785	3750	3990	4280	
500	670	4130	4390	4705	790	4130	4390	4705	930	4890	4880	5230	
630	775	4975	5290	5660	910	4975	5290	5660	1070	5530	5880	6290	
630	750	5050	5365	5760	885	5050	5365	5760	1040	5610	5960	6400	6.0
800	875	5895	6265	6715	1035	5895	6265	6715	1215	6550	6960	7490	
1000	1020	6885	7315	7885	1205	6885	7315	7885	1415	7650	8130	8760	
1250	1205	8190	8720	9335	1420	8190	8720	9335	16770	9100	9690	10370	
1600	1415	9945	10555	11320	1665	9945	1055	11320	1960	11050	11730	12580	
2000	1760	12240	13005	14005	2075	12240	13005	14005	2440	13600	14450	15560	
2500	2080	14535	15445	16605	2450	14535	15445	16605	2880	16150	17170	18450	

Note: The data in the table is for reference only. The company reserves the right to make changes to the data and accept special orders

WELTRUS

10kV Amorphous Oil-immersed Transformer

Implement GB1094, GB6451 and Other National Standards

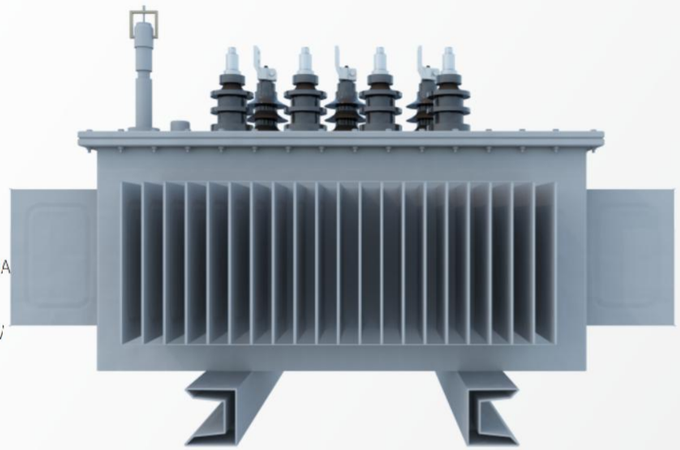
Applicable fields: residential communities, commercial centers, factories and mining enterprises, airports, stations, schools, rural areas and developing areas, etc

Product Model Example:

SBH15-M-400/10-NX3;

SBH21-M-500/10-NX2;

SBH25-M-630/10-NX1



PRODUCT PARAMETERS

Executive Standard: IEC、GB、ANSI/IEEE、KEMA

Capacity:30KVA-2500KVA

Rated Voltage On The Primary Side: 6KV-35KV

Rated voltage On The Secondary Side: 0.4KV

Number of Tap Changer Gears: 5

Frequency:50/60 Hz

Number of Phases: Three-phase

Connection group: Dyn11/Yyn0, etc

Impedance: 4%-6.5%

PRODUCT OVERVIEW

Amorphous alloy iron cores has the characteristics of low loss (equivalent to 1/3-1/5 of silicon steel sheets), low coercivity, low excitation waves, and good temperature stability. The transformers made of amorphous alloys have significant energy savings.Especially suitable for users with low load rates, such as rural areas and developing areas. The amorphous alloy transformer adopts a three-phase five column coil iron core, and the iron core is clamped with a thin plate forming frame structure. The low-voltage coil is foil wound, which makes it have strong short-circuit resistance, advanced and reasonable structure. The overall performance indicators reach the world's advanced level.

PRODUCT FEATURES

Low Loss: Meet the energy efficiency requirements in GB 20052-2020 "Energy Efficiency Limits and Energy Efficiency Grades for Power Transformers" standard;
Low noise: meet the requirements of the low noise standard of the State Grid and South Network;
Strong short-circuit resistance: Low voltage coils are wound with copper foil, while high voltage coils are formed by pressing and baking with adhesive paper, resulting in high mechanical strength;
Beautiful appearance: Full polishing and rust removal, powder electric spray paint can achieve the effect of home appliance painting.

WELTRUS

Rated Capacity KVA	Level 1			Level 2			Level 3			Short Circuit Impedance %
	Amorphous Alloy			Amorphous Alloy			Amorphous Alloy			
	No-load loss W	Load Loss W		No-load loss W	Load Loss W		No-load loss W	Load Loss W		
		Dyn11/Yzn11	Yyn0		Dyn11/Yzn11	Yyn0		Dyn11/Yzn11	Yyn0	
30	25	510	480	33	535	510	33	630	600	4.0
50	35	735	700	43	780	745	43	910	8700	
63	40	880	840	50	930	890	50	1090	1040	
80	50	1060	1010	60	1120	1070	60	1310	1250	
100	60	1270	1215	75	1350	1285	75	1580	1500	
125	70	1530	1450	85	1615	1540	85	1890	1800	
160	80	1870	1780	100	1970	1880	100	2310	2200	
200	95	2210	2100	120	2330	2225	120	2730	2600	
250	110	2590	2470	140	2735	2640	140	3200	3050	
315	135	3100	2950	170	3275	3120	170	3830	3650	
400	160	3660	3480	200	3865	3675	200	4520	4300	
500	190	4380	4170	240	4625	4400	240	5410	5150	
630	250	5020		320	5300		320	6200		4.5
800	300	6075		380	5415		380	7500		
1000	360	8340		450	8800		450	10300		
1250	425	9720		530	10260		530	12000		
1600	500	11745		630	12400		630	14500		
2000	550	14000		710	14800		720	18300		5.0
2500	670	15450		860	16300		865	21200		

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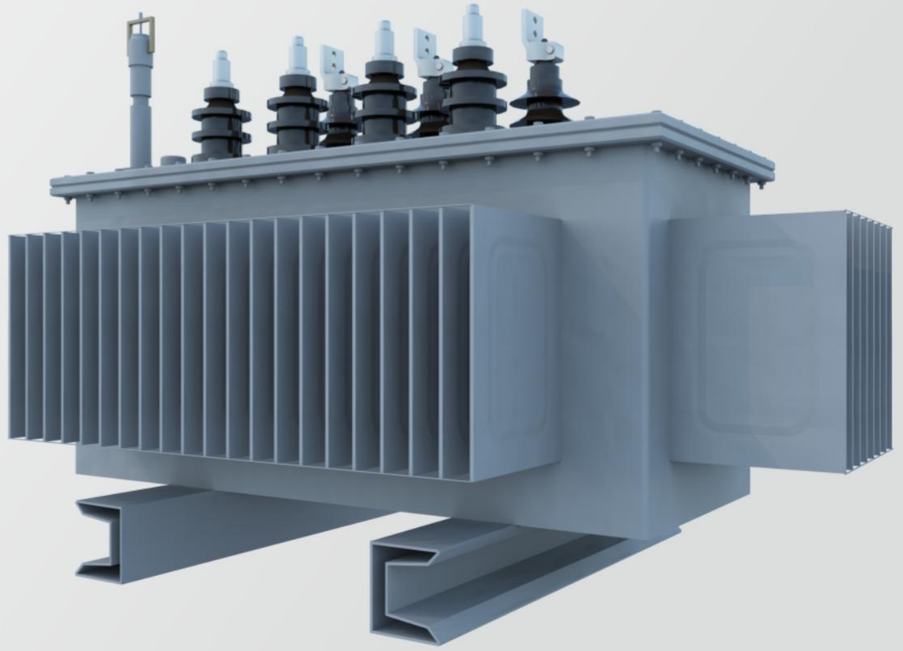


WELTRUS

10kV Amorphous Dry Type Transformer

Implement GB1094, GB6451 and Other National Standards

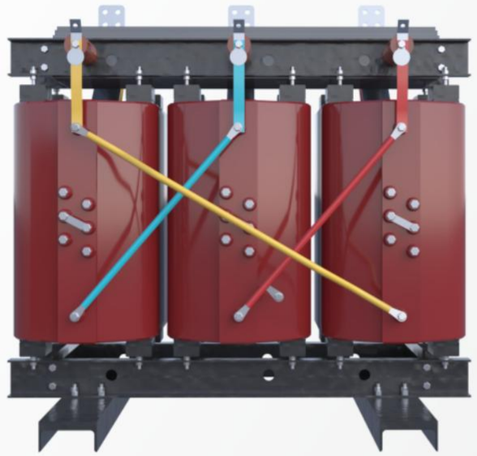
Applicable fields: residential communities, commercial centers, factories and mining enterprises, airports, stat

Product Model Example:

SCBH15-630/10-NX3

SCBH17-800/10-NX2

SCBH19-1000/10-NX1



PRODUCT PARAMETERS

Executive Standard: IEC、GB、ANSI/IEEE、KEMA

Capacity：30KVA-2500KVA

Rated Voltage On The Primary Side: 6KV-35KV

Rated voltage On The Secondary Side: 0.4KV

Number of Tap Changer Gears: 5

Frequency：50/60 Hz

Number of Phases: Three-phase

Connection group: Dyn11/Yyn0, etc

Impedance: 4%-6%

PRODUCT OVERVIEW

The amorphous alloy dry-type transformer adopts an amorphous alloy iron core, which can greatly reduce no-load losses. The no-load loss is 75% lower than that of ordinary silicon steel transformers, and amorphous alloy dry-type transformers have low losses, low heating, low temperature rise, and very stable operating performance. They are suitable for areas with over a thousand roads, urban infrastructure, residential areas, and other areas with significant power load changes. Due to its significant energy-saving effect, it can save a large amount of investment in power plants, reduce fuel consumption for power generation, and reduce pollution to the atmospheric environment. The resin mixing material adopts advanced mixing methods and vacuum thin film degassing techniques from abroad to mix the mixture evenly and eliminate bubbles inside the mixture. The product only has extremely low partial discharge capacity and can be controlled below 5PC. The casting body has a dense solidification structure, which is flame retardant, explosion-proof, and no pollution to the environment. It is currently a more advanced energy-saving and environmentally friendly dry-type transformer in China.

PRODUCT FEATURES

Low Loss: Meet the energy efficiency requirements in GB 20052-2020 "Energy Efficiency Limits and Energy Efficiency Grades for Power Transformers" standard;
Low noise: meet the requirements of the low noise standard of the State Grid and South Network;
Low partial discharge: The product only has extremely low partial discharge capacity, which can be controlled below 5PC.
High mechanical strength: The epoxy casting body has a dense curing structure that can withstand sudden short circuit electrodynamic forces without damage.

WELTRUS

Rated Capacity KVA	Level 1				Level 2				Level 3				Short Circuit Impedance %
	Amorphous Alloy				Amorphous Alloy				Amorphous Alloy				
	No-load loss W	Load Loss W			No-load loss W	Load Loss W			No-load loss W	Load Loss W			
		B (100℃)	F (120℃)	H (145℃)		B (100℃)	F (120℃)	H (145℃)		B (100℃)	F (120℃)	H (145℃)	
30	50	605	640	685	60	605	640	685	70	670	710	760	4.0
50	60	845	900	965	75	845	900	965	90	940	1000	1070	
80	85	1160	1240	1330	100	1160	1240	1330	120	1290	1380	1480	
100	90	1330	1415	1520	110	1330	1415	1520	130	1480	1570	1690	
125	105	1565	1665	1780	130	1565	1665	1780	150	1740	1850	1980	
160	120	1800	1915	2050	145	1800	1915	2050	170	2000	2130	2280	
200	140	2135	2275	2440	170	2135	2275	2440	200	2370	2530	2710	
250	160	2330	2485	2665	195	2330	2485	2665	230	2590	2760	2960	
315	195	2945	3125	3355	235	2945	3125	3355	280	3270	3470	3730	
400	215	3375	3590	3850	265	3375	3590	3850	310	3750	3990	4280	
500	250	4130	4390	4705	305	4130	4390	4705	360	4590	4880	5230	
630	295	4975	5290	5660	360	4975	5290	5660	420	5530	5880	6290	
630	290	5050	5365	5760	350	5050	5365	5760	410	5610	5960	6400	6.0
800	335	5895	6265	6715	410	5895	6265	5715	480	6550	6960	7490	
1000	385	6885	7315	7885	470	6885	7315	7885	550	7650	8130	8760	
1250	455	8190	8720	9335	550	8190	8720	9335	650	9100	9690	10370	
1600	530	9945	1055	11320	645	9945	10555	11320	760	11050	11730	12580	
2000	700	12240	13005	14005	850	12240	13005	14005	1000	13600	14450	15560	
2500	840	14535	15445	16605	1020	14535	15445	16605	1200	16150	17170	18450	

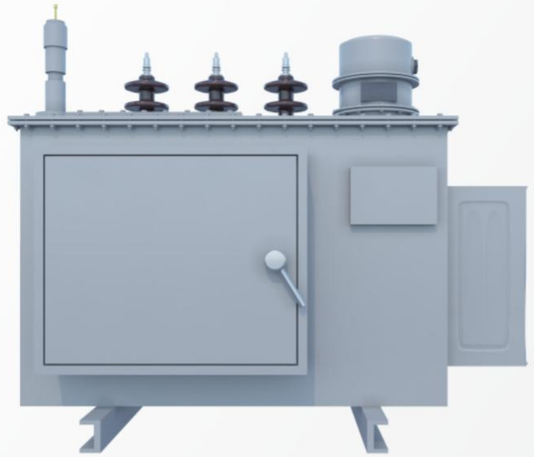
Note: The data in the table is for reference only. The company reserves the right to make changes to the data and accept special orders

10kV Load Capacity Adjustment Oil Immersed Transformer

Implement GB1094, GB6451 and Other National Standards

Applicable fields: residential communities, commercial centers, factories and mining enterprises, airports, stations, schools, etc.

Product Model Example:
S13-M•ZT-315 (100) /10



PRODUCT PARAMETERS

Executive Standard: IEC、GB、ANSI/IEEE、KEMA
Capacity：30KVA-2500KVA
Rated Voltage On The Primary Side: 6KV-35KV
Rated voltage On The Secondary Side: 0.4KV
Number of Tap Changer Gears: 5
Frequency：50/60 Hz
Number of Phases: Three-phase
Connection group: Dyn11/Yyn0, etc
Impedance: 4%-6.5%

PRODUCT OVERVIEW

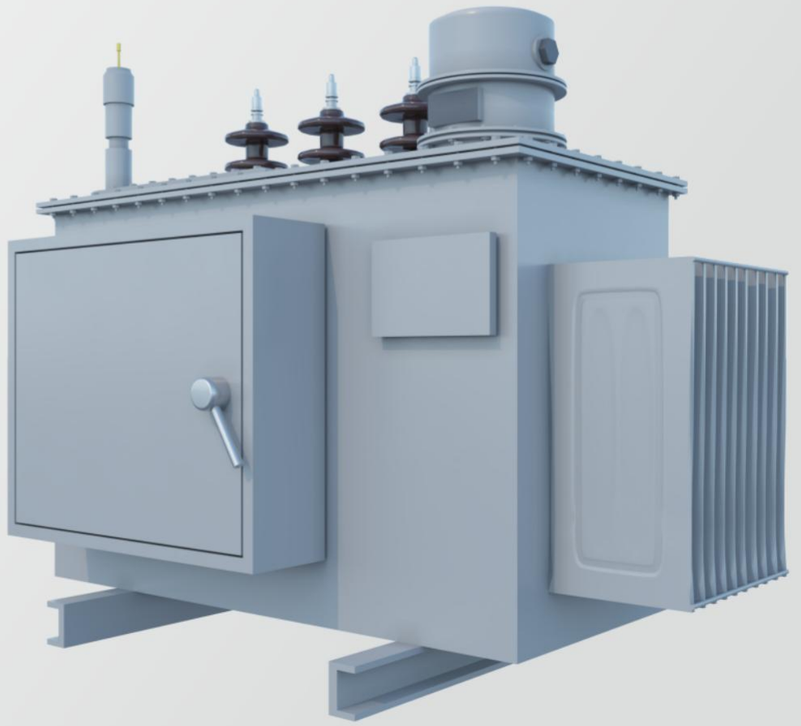
The S13-M · ZT type on load automatic capacity and voltage regulation distribution transformer is a type of distribution transformer with two rated capacities. The automatic capacity regulation controller automatically detects and judges based on the user's load size, and through a specially designed on load capacity regulation switch, the two capacities of the transformer are automatically switched without power outage, achieving automatic adjustment of the transformer capacity during operation, thereby achieving automatic conversion between the two capacity operation modes.

PRODUCT FEATURES

Capacity and voltage regulation: can achieve automatic capacity and voltage regulation;
Low noise: meet the requirements of the low noise standard of the State Grid and South Network;
Strong short-circuit resistance: Low voltage coils are wound with copper foil, while high voltage coils are formed by pressing and baking with adhesive paper, resulting in high mechanical strength;
Beautiful appearance: Full polishing and rust removal, powder electric spray paint can achieve the effect of home appliance painting

Type	No-load Loss (kW)	load Loss (kW)	Short circuit Impedance(%)	No-load Current (%)
S13-M · ZT-160(50)	200(100)	2310(870)	4.0	1.6(0.8)
S13-M · ZT-200(63)	240(110)	2730(1040)		1.5(0.7)
S13-M · ZT-250(80)	290(130)	3200(1250)		1.4(0.7)
S13-M · ZT-315(100)	340(150)	3830(1500)		1.4(0.7)
S13-M · ZT-400(125)	410(170)	4520(1800)		1.3(0.6)
S13-M · ZT-500(160)	480(200)	5410(2200)		1.2(0.6)
S13-M · ZT-630(200)	570(240)	6200(2600)	4.5	0.8(0.4)

Note: The data in the table is for reference only. The company reserves the right to make changes to the data and accept special orders



10kV On-load Capacity Regulating Dry Type Transformer

Implement GB1094, GB6451 and Other National Standards

Applicable fields: residential communities, commercial centers, factories and mining enterprises, airports, stations, schools, etc.

Product Model Example:
SCZB13-800/10

PRODUCT PARAMETERS

Executive Standard: IEC、GB、ANSI/IEEE、KEMA
30KVA-2500KVA
Rated Voltage On The Primary Side: 6KV-35KV
Rated voltage On The Secondary Side: 0.4KV
Number of Tap Changer Gears: 5
Frequency：50/60 Hz
Number of Phases: Three-phase
Connection group: Dyn11/Yyn0, etc
Impedance: 4%-6%

PRODUCT OVERVIEW

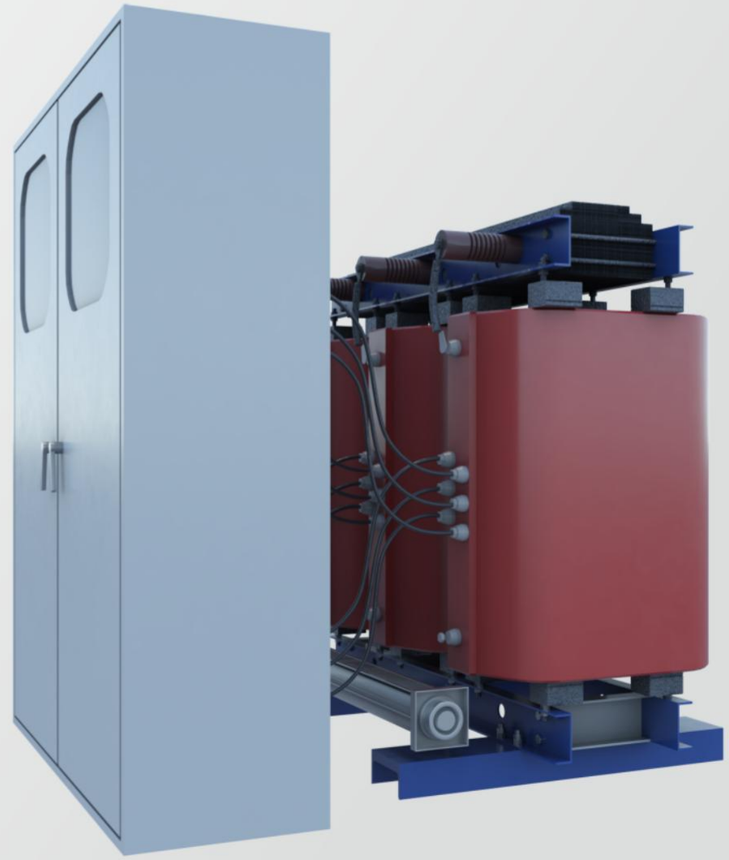
When the voltage of the power grid fluctuates, in order to provide high-quality stable voltage, it is necessary to adjust the voltage of the transformer; Reliable uninterruptible power supplies are becoming increasingly important to users, and the application of on load voltage regulating transformers is becoming more widespread; Integrated design of on load tap changer transformer, compact structure, small footprint, and easy installation; The on load tap changer adopts a dry vacuum box structure, consisting of an electric mechanism, a vacuum switching switch with transition resistance, and a tap selector; Automatic controller for on load tap changer equipment, convenient for on-site or remote control, and can provide microcomputer interfaces according to user needs;

PRODUCT FEATURES

On load voltage regulation: It can automatically detect voltage fluctuations in the power grid and adjust the gear automatically.
Low noise: meet the requirements of the low noise standard of the State Grid and South Network;
Low partial discharge: The product only has extremely low partial discharge capacity, which can be controlled below 5PC.
High mechanical strength: The epoxy casting body has a dense curing structure that can withstand sudden short circuit electrodynamic forces without damage.

Type	No-load Loss (kW)	load Loss (kW)	Short circuit Impedance(%)	No-load Current (%)
SCBZ12-160(50)/10	200(100)	2310(870)	4.0	1.6(0.8)
SCBZ12-200(63)/10	240(110)	2730(1040)		1.5(0.7)
SCBZ12-250(80)/10	290(130)	3200(1250)		1.4(0.7)
SCBZ12-315(100)/10	340(150)	3830(1500)		1.4(0.7)
SCBZ12-400(125)/10	410(170)	4520(1800)		1.3(0.6)
SCBZ12-500(160)/10	480(200)	5410(2200)		1.2(0.6)
SCBZ12-630(200)/10	570(240)	6200(2600)	4.5	0.8(0.4)

Note: The data in the table is for reference only. The company reserves the right to make changes to the data and accept special orders



High voltage distribution cabinet

Applied Standard Gb3906 National standard

Apply to power plant (station), substation (power distribution station) and industrial etc

PRODUCT PARAMETERS

1.Cold rolled steel plate or angle steel (used for welding cabinets);
2. Aluminum zinc coated steel plate or galvanized steel plate (used for assembling cabinets);
3. Stainless steel plate (non-magnetic);
4.Aluminum plate (non-magnetic).

PRODUCT OVERVIEW

A high-voltage switchgear cabinet is an electrical product used in power systems for generating, transmitting, distributing, converting, and consuming electricity, with a voltage rating of 3.6 kV to 550 kV. Generally, power supply bureaus and transformer substations use high-voltage switchgear cabinets, which are then reduced in voltage by transformers on the low-voltage side and distributed to low-voltage switchgear cabinets. The low-voltage switchgear cabinets are then distributed to various electrical equipment such as distribution panels, control boxes, and switch boxes to achieve the design functional requirements of the distribution equipment..

PRODUCT FEATURES

Product Technical Features:
1. The use of heat-shrink insulation materials and epoxy coating insulation processes optimizes the shape of the electrodes, making the cabinet structure compact and reducing the occupied area;
2. The cabinet body is made of high-quality cold-rolled steel by CNC sheet metal processing, and is connected by high-strength bolts, nuts and rivet nuts. The surface of the components is treated with spray painting or galvanizing;
3. It can be equipped with domestic ZN85-40.5 vacuum circuit breakers and foreign SF1, SF2 type and FP system sulfur hexafluoride circuit breakers to meet the needs of different users;
4. The functional compartments of the switchgear are all separated by metal sheets and have independent pressure release channels;
5. The operation of the circuit breaker, grounding switch, etc. can be performed while the switchgear is closed, allowing for door closing operations;
6. The structure of the switchgear is highly adaptable, with the main connection scheme reaching 198 or more, to meet the needs of different users;
7. Mechanical interlock devices are installed between the trolley, circuit breaker, grounding switch, and rear door to prevent accidental operation. The "five prevention" function is complete and reliable.

TECHNICAL PARAMETERS

KYN61

Project Name		Unit	Data
Rated Voltage		kV	40.5
Rated Current	The rated current of the main busbar	A	630,1250,1600,2000
	The rated current of the circuit breaker	A	630,1250,1600,2000
Rated Insulation Level	1min Power frequency voltage pole-to-pole /between open contracts	kV	95/110
	Lighting impulse withstand voltage(peak) pole-to-pole pole-to-ground/ between open contracts	kV	185/215
	The power frequency withstand voltage of auxiliary circuit and control circuit	V/1min	2000
Rated Frequency		Hz	50
Rated breaking short-circuit current		kA	20,25,31.5
Rated short time withstand current/ rated duration of short-circuit		kA/4s	20,25,31.5
Rated peak withstand current		kA	50,63,80
Switching current of rated short-circuit current		kA	50,63,80
the rated voltage of control circuit		V	DC:110,220V AC:110,220V
center distance between phase		mm	300
protection class			IP4X
			IP2X
weight		kg	2400

KYN28

Project Name		Unit	Data
rated voltage		kV	3,6,7.2,12,24
rated insulation level		kV	42
	Lighting impulse with stand voltage	kV	75
Rated frequency		Hz	50
The rated current of the main busbar		A	630,1250,1600,2000,2500,3150,4000,5000,6300
The rated current of the barnch busbar		A	630,1250,1600,2000,2500,3150,4000,5000,6300
4S thermal stable current(Effective value)		kA	16,20,25,31.5,40,50
Rated dynamic current(peak)		kA	40,50,63,80,100,125
Protection class		The enclosure is IP4X,Isolation room,circuit breaker room are IP2X when open the door	
Weight		kg	1000

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TECHNICAL PARAMETERS

Serial Number	Project Name		Unit	Technical Parameter
1	Rated voltage		kV	10
2	Maximum working voltage		kV	12
3	Rated frequency		Hz	50
4	1min Power frequency withstand voltage		kV	Phase-to-phase and phase-to-ground are 42、disconnector fracture is 48
5	Lighting impulse withstand voltage		kV	Phase-to-phase and phase-to-ground are 75、disconnerctor fracture is 85
6	The rated current of the main busbar		A	630
7	load switch	Rated current	A	630
8		Mechanical life	次	5000
9		Switched no-load transformer capacity	kVA	1250
10		Rated thermal stable current	kA	20 (4S)
11		Rated dynamic current	kA	50 (peak)
12		Rated making current	kA	50 (peak)
13	Combination electrical apparatus	The maximum rated current of fuse	A	100
14		Rated Transferring Current	A	1500 (2000)
15		Rated short-circuit switched current	kA	31.5
16		Distribution fuse type		S□LAJ-12 (XRNT□-10)
17		The maximum rated capacity of transformer used	kVA	1250

XGN66

WELTRUS

TECHNICAL PARAMETERS

Serial Number	Project Name			Unit	Data
1	Rated voltage			kV	3,6,7.2,12
2	Rated current			A	630~3150
3	Rated short-circuit switched current			kA	20,25,31.5
4	Rated short-circuit making current(peak)			kA	40,50,80,100
5	Rated withstand current(peak)			kA	40,50,80,100
6	Rated short-time withstand current			kA	20,25,31.5,40
7	Rated insulation level	1min Power frequency withstand voltage	Pole-to-pole、pole-to-ground、fracture	kV	24,32,42
				kV	28,38,48
		Lighting impulse withstand voltage	Pole-to-pole、pole-to-ground、fracture	kV	40,60,75
				kV	46,70,85
8	Rated duration of short-circuit			s	4
9	Protection class				IP2X
10	Structural form				Single bus with two sections and one transfer bus
11	operating mode				Electromagnetic、spring stored energy
12	Overall dimension (width x depth x height)			mm	1200x1300x2650(≥2000A) 1100x1200x2650common
13	weight			kg	≈1000

XGN2

TECHNICAL PARAMETERS

Project Name		Unit	Technical Parameter
Rated voltage		[kV]	12/24
Rated lighting impulse withstand voltage	phase-to-phase and phase-to-ground	[kV]	75/125
	break-to -break	[kV]	85/145
1min Power frequency withstand voltage	phase to phase and phase to ground	[kV]	42/65
	break-to -break	[kV]	48/79
Rated frequency		[Hz]	50/60
Rated current	Main busbar	[A]	1250/630
	Branch busbar	[A]	1250/630
Rated short-time withstand current	Main circuit	[kA]	20/3S
	Earthing circuit	[kA]	20/2S
Ratesd peak withstand current		[kA]	50
Transferring current		[A]	1700/800
Protection class			IP3X
The mechanical life of load switch		次	2000
The mechanical life of load switch		次	2000

HXGN15

WELTRUS

PRODUCT OVERVIEW

The KRC-GIS-12/24 Uniform insulation and seal non-segregated type ring main unit (also known as a gas-insulated switchgear) is a new generation of compact modular switchgear. It has the advantages of compact structure, fully enclosed, fully insulated, long service life, no maintenance required, small footprint, safety and reliability, and no impact from working environment.

It is suitable for small secondary distribution substations, switching stations, industrial and mining enterprises, airports, railways, commercial areas, high-rise buildings, highways, subways, and tunnels.

TECHNICAL PARAMETERS

项目名称 Project Name	C Module	F Module	V Module		CB Module	
	Load Switch	Combination Switch	Vacuum Switch	Isolation / earthing Switch	Vacuum Circuit Breaker	Isolation / earthing Switch
Rated voltage	12/24					
Rated current	630	125	630		1250/630	
Power frequency withstand voltage	42/50					
Lighting impulse withstand voltage	95/125					
Short-time withstand current	25/2		20 16/3	20 16/3	25 20/3	25 20/3
Short-circuit switched current		31.5	20/16		25/20	
Mechanical life (times)	5000	3000	5000	2000	5000	5000
Sf6 the pressure of the gas	1.4					
environment condition	温度 Temperature 40℃~-25℃		湿度Humidity <95%			

WELTRUS

PRODUCT OVERVIEW

The KRSIS-12V solid insulated switchgear adopts a modular structure design, which allows for arbitrary combination and expansion of the switchgear, facilitating maintenance and repair. Fully insulated, fully sealed, maintenance free, all live parts undergo full insulation treatment. Adopting fully insulated busbar, longitudinally arranged, convenient and reliable connection. There is an independent low-voltage room that can be equipped with microcomputer protection and various meters. There is no need to install a low-voltage compartment on the top of the cabinet, making the arrangement of the switchgear more beautiful and compact. There is an independent low-voltage room that can be equipped with microcomputer protection and various meters. There is no need to install a low-voltage compartment on the top of the cabinet, making the arrangement of the switchgear more beautiful and compact.

TECHNICAL PARAMETERS

Project Name	Unit	Product Category			
		Load switch	Combined electrical switch	breaker	Isolation switch
Rated voltage	kV	12	12	12	12
Arc-extinguishing type	-	Vacuum	Vacuum	Vacuum	-
Rated current	A	630	125	630	630
Rated frequency	Hz	50	50	50	50
Main circuit resistance	μΩ	≤150	≤500 note1	≤150	≤150
1min power frequency withstand voltage phase-to-phase phase-to-ground/between open contacts	kV	42/48	42/48	42/48	42/48
Lighting impulse withstand voltage phase-to-phase、phase-to-ground/between to contacts	kV	75/85	75/85	75/85	75/85
Tated short-circuit switched current	kA	-	315 note2	20	-
Rated short-circuit making current	kA	50	80 note2	50	-
Rated short-time withstand current	kA/s	20/4	-	20/4	-
Rated peak withstand current	kA	50	80 note2	50	-
Rated cable-charging breaking current	A	10	-	-	-
50%Rated active load switched current	A	315	-	-	-
transferring current	A	-	3150	-	-
Average closing speed	m/s	09±0.2			-
Average opening speed	m/s	13±0.2			-
opening and closing non-synchronism	m/s	≤2			-
Closing time	m/s	25~60			-
Opening time	ms	17~45			-
Closing bounce time	ms	≤2			-
Mechanical life	次	Load switch/circuit breaker:10000； Isolation、earthing switch:3000			
Protection Class		IP67			
partial diacharge	Pc	≤5 note1			

In the table above: Note 1: Use conductive rods instead of high-voltage fuses; Note 2: According to the high-voltage fuse; Note 3: All epoxy insulators

Low Voltage Distribution Cabinet

Applied Standard Gb3906 National standard

Apply to power plant (station), substation (power distribution station) and industrial etc

PRODUCT PARAMETERS

1.Cold rolled steel plate or angle steel (used for welding cabinets);
2. Aluminum zinc coated steel plate or galvanized steel plate (used for assembling cabinets);
3. Stainless steel plate (non-magnetic);
4.Aluminum plate (non-magnetic).

PRODUCT OVERVIEW

The rated current of the low-voltage distribution cabinet is an AC 50Hz, rated voltage of 380V distribution system, mainly used for power distribution, distributing the voltage after the transformer to various electrical units for use in low-voltage distribution systems for power and lighting distribution. The product has the following characteristics: strong distribution capacity, good dynamic and thermal stability, flexible and convenient electrical scheme combination, strong series and practicality, and a novel structure.

PRODUCT FEATURES

1. Easy to configure power supply reasonably
2. When there is a fault in the circuit, it is beneficial to control the range of the fault and facilitate the quick identification and timely elimination of the fault point
3. Easy to arrange circuit maintenance in sections without the need for large-scale power outages.
4. It is convenient to place various protective devices inside the distribution cabinet, such as fuses to prevent short circuits and air switches to prevent overload.

PRODUCT OVERVIEW

GCK low-voltage drawer type switchgear has the advantages of flexible electrical scheme, convenient combination, strong practicality, strong interchangeability, flexible operation, convenient maintenance, and high protection level.It is suitable for power plants (stations), substations (distribution rooms), as well as industrial, commercial, construction and other fields.

TECHNICAL PARAMETERS

Applied Standard GB7251 National standard

Project Name		Technical Parameter
Rated insulation voltage		Ac660
Rated working voltage		AC380
Rated frequency		50
Protection class		IP30
Rated current (A)	Horizontal busbar	630~3150
	Vertical busbar	630~1000
	Controlgear main circuit	125,200,400
	Controlgear control circiut	20
	Maximum feeding current	1600
	electric power receiving current	630~3150
Rated short-time withstand current (kA)	Effective value	30,50
	peak	63,105
Componet derated coefficient		0.8Ie（Le is component rated current)
Unit drawer breaking capacity (kV)		30~50*
The working voltage of auxiliary circuit (V)		Direct current：110，220 Alternating current：63-380

GCK

NT□ series fuses for short-circuit protection appliances, with a breaking capacity of up to 100ka

WELTRUS

PRODUCT OVERVIEW

GCS low-voltage drawer type switchgear has the advantages of flexible electrical scheme, convenient combination, strong practicality, strong interchangeability, flexible operation, convenient maintenance, and high protection level.It is suitable for power plants (stations), substations (distribution rooms), as well as industrial, commercial, construction and other fields.

TECHNICAL PARAMETERS

Main Circuit Voltage Rating（V）		AC 380（400）、（600）
The rated voltage of auxiliary circuit		Alternating current 200、380 (440) Direct current 110、220
Rated frequency		50(60)
Rated insulation voltage		660(1000)
Rated current	Horizontal busbar	≤4000(6300)
	Vertical busbar	1000
Busbar rated short-time withstand current		50,80
Busbar rated peak withstand current		105,176
power frequency test voltage	Main circuit	2500
	Auxiliary circuit	2000
Busbar	Three-phase four-wire system	A,B,C,PEN
	Three phase five wire system	A,B,C,PEN
Protectin Class		IP30
Weight	kg	650

GCS

PRODUCT OVERVIEW

MNS low-voltage drawer type switchgear has the advantages of flexible electrical scheme, convenient combination, strong practicality, strong interchangeability, flexible operation, convenient maintenance, and high protection level.It is suitable for power plants (stations), substations (distribution rooms), as well as industrial, commercial, construction and other fields.

TECHNICAL PARAMETERS

Project Name		Technical Parameter
Rated insulation voltage (V)		AC660
Rated working voltage (V)		AC400
Rated frequency (Hz)		50
Protection Class		IP30, IP40
Rated current (A)	Horizontal busbar	630~3150
	Vertical busbar	630~1000
	Controlgear main circuit	125, 200, 400
	Controlgear control circuit	32
	Maximum feeding current	1600
	electric power receiving current	630~3150

MNS

WELTRUS

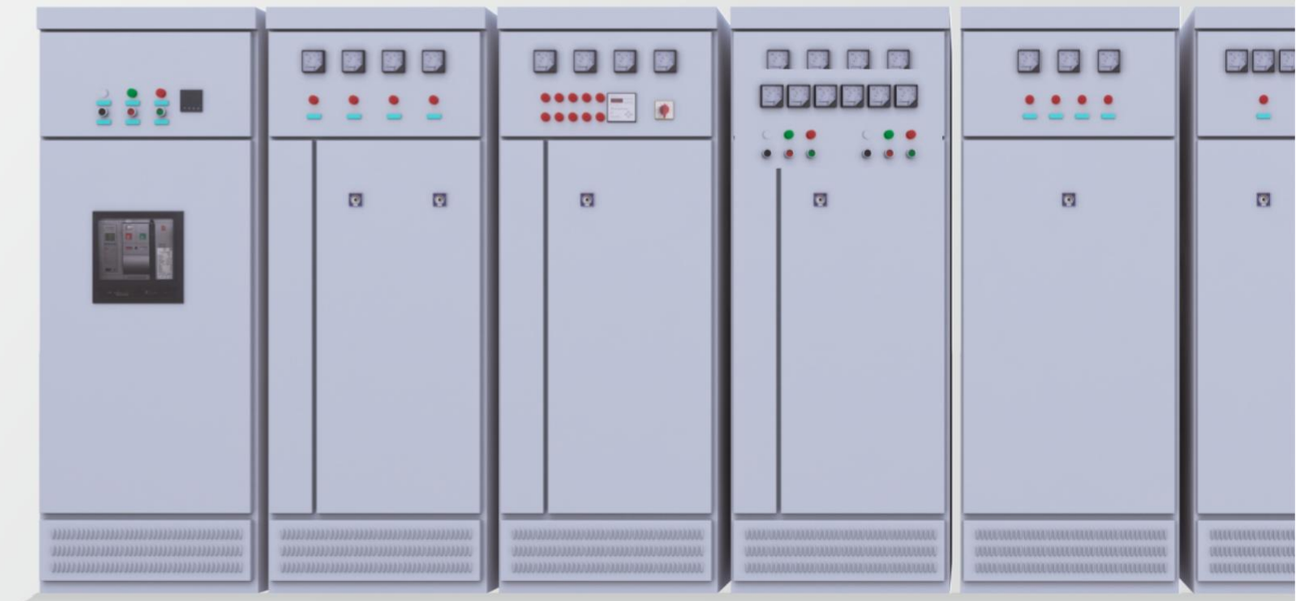
PRODUCT OVERVIEW

GCD Low voltage fixed type switchgear has the advantages of flexible electrical scheme, convenient combination, strong practicality, strong interchangeability, flexible operation, convenient maintenance, and high protection level.It is suitable for power plants (stations), substations (distribution rooms), as well as industrial, commercial, construction and other fields.

TECHNICAL PARAMETERS

Model Specifications	Rated Voltage (kV)	Rated Current (A)		Rated Short Circuit Breaking Current (kA)	Rated Short Time Withstand Current (kA/1s)	Rated Peak Withstand Current (kA)
GGD1	0.4 (0.66)	A	1000	15	15	30
		B	600(630)			
		C	400			
GGD2	0.4 (0.66)	A	1500(1600)	30	30	63
		B	1000			
		C	630			
GGD3	0.4 (0.66)	A	3150~6300	50	50	105
		B	2500			
		C	2000			

GGD



WELTRUS

PRODUCT OVERVIEW

The framework of the Mdmax ST low-voltage withdrawable switchgear adopts aluminum zinc plate double folding edge technology, and the top cover of the horizontal busbar area can be disassembled. It has three functional units: drawer type, movable type, and plug-in type. Drawer style structure, capable of assembling up to 36 circuits. Without reducing the protection level, it is possible to achieve three position conversion of the drawer circuit, position positioning of the movable parts of the drawer, and matching with three types of indicators: sound, light, and text. This is a comprehensive solution for drawer type electric operation circuits.

Application Standard GB7251.1-2013、IEC60439-1、EN60439.1、DIN-VDE0660、Part 500 BS5486、UTE63-410

TECHNICAL PARAMETERS

Project Name			Technical Parameter
Rated voltage (V)		Rated insulation voltage	690V/1000V AC, 3P, 1500V DC
		Rated working voltage	400V/690V AC, 3P, 750V DC
		Rated impulse withstand voltage	6/8/12kV
		Overvoltage level	II/III/IV
		Pollution level	3
		Rated working frequency	60Hz
Rated current	Main busbar	Rated current	6300A
		Rated peak withstand current	220kA
		Rated short-time withstand current	100kA
	diatribution busbar	Rated current	2000kA
		Rated peak withstand current	176kA
		Rated short-time withstand current	80kA

Mmax ST

PRODUCT OVERVIEW

The MLS low-voltage drawer type switchgear is a low-voltage switchgear assembled by the factory using standard modules (FBA), suitable for power distribution systems with AC 50 (60) Hz, rated working voltage ≤ 400V, rated working current 5000A and below. It is used for energy distribution, conversion, control, and reactive power compensation.

TECHNICAL PARAMETERS

Application Standard：GB7251.1、GB7251.12、JB/T9661、IEC60439-1、BS EN60439-1

Project Name		Technical Parameter
Rated working voltage	Main circuit	≤ AC 400V
	Auxiliary circuit	≤ AC 380V, ≤ DC 220V
Rated insulation voltage	Main circuit	AC 690V
Rated impulse withstand voltage	Main circuit	6、8
A Rated working current(IP4X Hour)*A	Main busbar	≤5000、≤3600（MLS双面柜 Double-sided cabinent）
	Vertical busbar	790、1000、1250、1600（抽出式Extraction），≤2500（插拔式Pluggable MCCB）
Rated short-time withstand current KA/1s	Main busbar	50、65、80、100
	Vertical busbar	50、65、80、90
Rated peak withstand current KA/0.1s	Main busbar	105、143、176、220
	Vertical busbar	105、143、176、198

MLS

* When the protection level is IP55, the rated working current of the main busbar is ≤ 2500a

WELTRUS

MORE PRODUCT

10kV outdoorsSwitching post

KYN1–12 (Z) Indoor AC Metal Armoured Movable High Voltage Switchgear

JYN2–12 Indoor AC Metal Interval Type High Voltage Switchgear

GGJ Low Voltage Reactive Power Compensation Cabinet

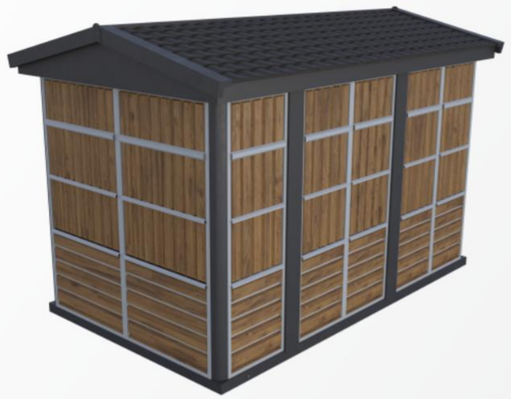
KRXL–21 Impetus Power Distribution Cabinet

DC Power Supply Panel

European New Energy Special Box Change

Apply to power plant (station), substation (power distribution station) and industrial etc

Material/color support for customization



PRODUCT OVERVIEW

The YB series high/low-voltage prefabricated substation is a power equipment consisting of high-voltage power equipment, distribution transformer, low-voltage power equipment, electric energy metering device, and power factor correction device, etc. It is a power equipment that serves as a power supply and distribution device, and it has the characteristics of easy installation and simple operation.

PRODUCT FEATURES

Product technical features:

1. Having 4 national invention patents, the product technology in the domestic leading level;
2. Rated voltage: 12-24kV;
3. Rated frequency: 50Hz;
4. Transformer capacity ≤ 6300KVA;
5. The highest altitude is 4500 meters;
6. Shell protection level: Ip54;
7. High voltage switchgear can adopt environmentally friendly gas, air insulation, SF6 gas insulation, solid insulation and other types;
8. The backgrounds monitoring system can achieve online monitoring of key product points (online temperature of primary contacts, partial discharge of insulation components, and arc light);
9. As distribution control and protection equipment for new energy generation systems such as photovoltaic and wind power;
10. Normal service life: 20 years;

TECHNICAL PARAMETERS

Project Name	Unit	HV Electrical Apparatus	Transformer	LV Electrical Apparatus
Rated voltage	kV	6;12	6/0.4;10/0.4	0.4
Rated capacity	kVA		I 200~1250	
			II 50~400	
Rated current	A	630,800,1250		200~2000
Rated switch current	A	Load switch 630A		15~63
	kA	Composite apparatus depend on fuse		
Rated short-time withstand current	kA	20 kA	200~400kVA	15×1
		25 kA	>400kVA	30×1
Rated peak withstand current	kA	31.5;50	200~400kVA >400kVA	30 60
Rated making current	kA	31.5;50		
Power frequency withstand voltage	kV	Phase-to-phase and Phase-to-ground 42	Oil-immersed type 35	≤300V;2
		Insolation between open contacts 48	干式 Dry type 35	>300V;2.5
Lighting impulse withstand voltage (peak)	kV	75	75	
		Insolation between open contacts 85		
Enclouse protection class		IP3X	IP2X	IP30
Voice level	dB		Oil-immersed type <55	
			Dry type <65	

Notes: When transformer capacity is less than 200kVA, items 5, 6 is not required.

Chinese New Energy Special Box Change

Apply to power plant (station), substation (power distribution station) and industrial etc

PRODUCT OVERVIEW

An intelligent solar/wind power-specific substation is a power equipment that integrates high-voltage switching equipment, transformer body, and protective fuses into an oil tank and combines them with low-voltage switching cabinets and corresponding auxiliary support equipment. The product has the advantages of low power consumption and strong outdoor weather resistance. It is an ideal complementary equipment for solar (wind power) power generation systems.

PRODUCT FEATURES

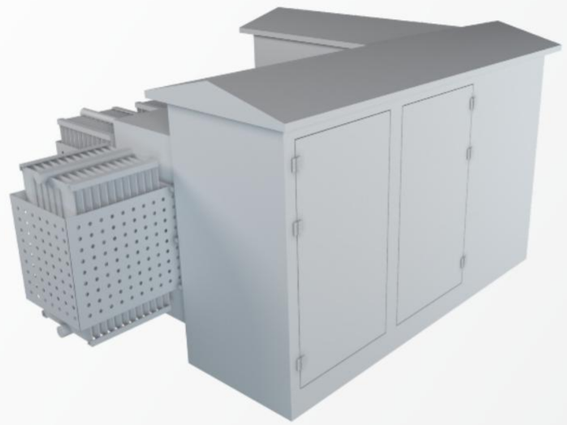
1. Rated voltage: 12-40.5kV;
2. Maximum rated capacity of transformer: 5000kVA;
3. Rated frequency: 50Hz;
4. Protection level: Ip54;
5. The low-voltage main switch adopts a photovoltaic (wind power) dedicated circuit breaker to meet the temperature rise requirements;
6. The product structure adopts two invention patent technologies;
7. The backend monitoring system can achieve online monitoring of key points (primary contact temperature, partial discharge of insulation components, and arc light), with a high level of intelligence;
8. Normal service life: 20 years;

TECHNICAL PARAMETERS

Voltage	System voltage	35kV、36.75kV、38.5kV
	High voltage side maximum working voltage	40.5kV
	Low voltage side maximum working voltage	0.27kV、0.3kV、0.315kV、0.4kV、0.5kV、0.69kV
Rated frequency		50Hz
Rated insulation level	High voltage switch power frequency withstand voltage	95kV
	Transformer body power frequency withstand voltage	85kV
	Impact peak withstand voltage	200kV
	Transformer low voltage side power frequency withstand voltage	5kV
Phase		三相 Three phase
Protection level	tank	IP68
	High and low pressure room	IP54
	After the high pressure chamber door is opened	IP3X

American New Energy Special Box Change

Apply to power plant (station), substation (power distribution station) and industrial etc



PRODUCT OVERVIEW

The American style new energy photovoltaic box transformer is a power equipment composed of high-voltage power equipment, distribution transformers, low-voltage power equipment, energy metering devices, and power factor compensation devices. As a power supply and distribution equipment, it has the characteristics of easy installation and simple operation.

PRODUCT FEATURES

Product technical features:

1. Having 4 national invention patents, the product technology in the domestic leading level;
2. Rated voltage: 12-24kV;
3. Rated frequency: 50Hz;
4. Transformer capacity ≤ 6300KVA;
5. The highest altitude is 4500 meters;
6. Shell protection level: Ip54;
7. High voltage switchgear can adopt environmentally friendly gas, air insulation, SF6 gas insulation, solid insulation and other types;
8. The backgrounds monitoring system can achieve online monitoring of key product points (online temperature of primary contacts, partial discharge of insulation components, and arc light);
9. As distribution control and protection equipment for new energy generation systems such as photovoltaic and wind power;
10. Normal service life: 20 years;

TECHNICAL PARAMETERS

Voltage	System voltage	35kV、36.75kV、38.5kV
	High voltage side maximum working voltage	40.5kV
	Low voltage side maximum working voltage	0.27kV、0.3kV、0.315kV、0.4kV、0.5kV、0.69kV
Rated frequency		50Hz
Rated insulation level	High voltage switch power frequency withstand voltage	95kV
	Transformer body power frequency withstand voltage	85kV
	Impact peak withstand voltage	200kV
	sformer low voltage side power frequency withstand voltage	5kV
Phase		三相 Three phase
Protection level	tank	IP68
	igh and low pressure room	IP54
	After the high pressure chamber door is opened	IP3X

(ZA/ZB/ZC-)YJLW02-64/110kV Cable structure parameters table 1-1

Specification mm²	Conductor structure No./mm	conductor diameter mm	Insulation outer diameter (Including external screen) ±1.5mm	Cable outer diameter ±4.0mm		Approximate cable weight kg/m			
						graphite		Squeeze bag	
				graphite	Squeeze bag	Non-flame retardant	Flame retardant	Non-flame retardant	Flame retardant
240	37/2.96	18.4±0.2	61.5	87.0	88.0	8.25	8.31	8.43	8.49
300	61/2.58	20.6±0.2	**62.7**	88.2	89.2	8.90	8.96	9.08	9.14
400	61/2.91	23.4±0.2	**63.5**	89.0	90.0	9.67	9.73	9.85	9.91
500	61/3.30	26.6±0.2	**65.7**	91.2	92.2	10.82	10.88	11.01	11.07
630	60/3.76	30.0±0.2	**68.1**	95.6	96.6	12.54	12.61	12.73	12.81
800	61/4.28 or 88/3.52	34.0±0.2	71.1	98.6	99.6	14.36	14.43	14.56	14.63
800(division)	5×37/2.50	34.6±0.6	73.8	101.3	102.3	14.84	14.91	15.04	15.12
1000(division)	5×37/2.80	38.8±0.6	77.8	105.9	106.9	17.37	17.45	17.58	17.66
1200(division)	5×61/2.36	41.8±0.6	**80.8**	109.9	110.9	19.50	19.58	19.72	19.81
1400(division)	5×61/2.56	45.6±0.6	84.6	113.7	114.7	21.70	21.79	21.93	22.02
1600(division)	5×61/2.72	48.6±0.6	87.6	116.7	117.7	23.78	23.88	24.02	24.12

(ZA/ZB/ZC-)YJLW02-Z-64/110kV Cable structure parameter table 1-2

Specification mm²	Conductor structure No./mm	conductor diameter mm	Insulation outer diameter (Including external screen) ±1.5mm	Cable outer diameter ±4.0mm		Approximate cable weight kg/m			
						graphite		Squeeze bag	
				graphite	Squeeze bag	Non-flame retardant	Flame retardant	Non-flame retardant	Flame retardant
240	**37/2.96**	**18.4±0.2**	**61.5**	**89.0**	90.0	8.41	8.47	8.59	8.65
300	61/2.58	20.6±0.2	**62.7**	**90.2**	91.2	9.06	9.12	9.24	9.31
400	61/2.91	23.4±0.2	**63.5**	92.0	93.0	9.88	9.94	10.07	10.13
500	61/3.30	26.6±0.2	**65.7**	94.2	95.2	11.06	11.12	11.25	11.32
630	60/3.76	30.0±0.2	**68.1**	97.6	98.6	12.71	12.78	12.91	12.98
800	61/4.28 or 88/3.52	34.0±0.2	**71.1**	100.6	101.6	14.56	14.63	14.76	14.84
800(division)	5×37/2.50	34.6±0.6	**73.8**	103.3	104.3	15.04	15.12	15.25	15.33
1000(division)	5×37/2.80	38.8±0.6	**77.8**	**107.9**	108.9	17.59	17.67	17.80	17.89
1200(division)	5×61/2.36	41.8±0.6	**80.8**	**111.9**	112.9	19.72	19.81	19.95	20.04
1400(division)	5×61/2.56	45.6±0.6	**84.6**	**115.7**	116.7	21.93	22.02	22.16	22.26
1600(division)	5×61/2.72	48.6±0.6	**87.6**	118.7	119.7	24.02	24.11	24.26	24.35

(ZA/ZB/ZC-)YJLW03-64/110kV Cable structure parameter table 1-3

Specification mm²	Conductor structure No./mm	conductor diameter mm	Insulation outer diameter (Including external screen) ±1.5mm	Cable outer diameter ±4.0mm		Approximate cable weight kg/m			
				graphite		graphite		Squeeze bag	
				graphite	Squeeze bag	Non-flame retardant	Flame retardant	Non-flame retardant	Flame retardant
240	37/2.96	18.4±0.2	61.5	87.0	88.0	7.80	8.14	7.95	8.29
300	61/2.58	20.6±0.2	62.7	88.2	89.2	8.44	8.79	8.59	8.94
400	61/2.91	23.4±0.2	63.5	89.0	90.0	9.21	9.56	9.36	9.71
500	61/3.30	26.6±0.2	**65.7**	91.2	92.2	10.35	10.70	10.50	10.86
630	60/3.76	30.0±0.2	68.1	95.6	96.6	11.99	12.40	12.15	12.57
800	61/4.28 or 88/3.52	34.0±0.2	71.1	98.6	99.6	13.78	14.21	13.95	14.38
800(division)	5×37/2.50	34.6±0.6	73.8	101.3	102.3	14.25	14.69	14.42	14.87
1000(division)	5×37/2.80	38.8±0.6	77.8	105.9	106.9	16.75	17.21	16.93	17.40
1200(division)	5×61/2.36	41.8±0.6	**80.8**	109.9	110.9	18.79	19.32	18.98	19.51
1400(division)	5×61/2.56	45.6±0.6	84.6	113.7	114.7	20.97	21.51	21.16	21.71
1600(division)	5×61/2.72	48.6±0.6	87.6	116.7	117.7	23.03	23.59	23.23	23.80

(ZA/ZB/ZC-)YJLW03-Z-64/110kV Cable structure parameters table 1-4

Specification mm²	Conductor structure No./mm	conductor diameter mm	Insulation outer diameter (Including external screen) ±1.5mm	Cable outer diameter ±4.0mm		Approximate cable weight kg/m			
						graphite		Squeeze bag	
				graphite	Squeeze bag	Non-flame retardant	Flame retardant	Non-flame retardant	Flame retardant
240	**37/2.96**	**18.4±0.2**	**61.5**	**89.0**	90.0	7.94	8.29	8.10	8.45
300	61/2.58	20.6±0.2	**62.7**	**90.2**	91.2	8.59	8.94	8.74	9.10
400	61/2.91	23.4±0.2	**63.5**	92.0	93.0	9.40	9.76	9.56	9.92
500	61/3.30	26.6±0.2	**65.7**	94.2	95.2	10.57	10.94	10.73	11.10
630	60/3.76	30.0±0.2	**68.1**	97.6	98.6	12.14	12.57	12.31	12.74
800	61/4.28 or 88/3.52	34.0±0.2	**71.1**	100.6	101.6	13.97	14.41	14.14	14.59
800(division)	5×37/2.50	34.6±0.6	**73.8**	103.3	104.3	14.44	14.89	14.61	15.07
1000(division)	5×37/2.80	38.8±0.6	**77.8**	**107.9**	**108.9**	16.95	17.43	17.14	17.62
1200(division)	5×61/2.36	41.8±0.6	**80.8**	**111.9**	112.9	19.00	19.54	19.19	19.74
1400(division)	5×61/2.56	45.6±0.6	**84.6**	**115.7**	116.7	21.18	21.74	21.38	21.94
1600(division)	5×61/2.72	48.6±0.6	**87.6**	**118.7**	119.7	23.25	23.83	23.45	24.03

(ZA/ZB/ZC-)YJLW02-64/110kV Cable electrical parameters table 2-1

Specification mm²	20℃ conductor DC resistance Q/km	90℃ conductor comminicate resistance Q/km	Cable Allow μ F/km	Short circuit current kA/ls		Positive and negative sequence impedance Q/km		Zero sequence impedance (one end grounded) Q/km	
				conductor	Metal sleeve	Pin	Parallel spacing	Pin	Parallel spacing
240	0.0754	0.0970	0.1283	34.7	39.7	0.0971+j0.1565	0.0970+j0.2377	0.2450+j0.6179	0.2450+j0.4845
300	0.0601	0.0777	0.1388	43.4	40.3	0.0779+j0.1503	0.0777+j0.2306	0.2258+j0.6090	0.2258+j0.4774
400	0.0470	0.0613	0.1551	57.8	40.7	0.0615+j0.1428	0.0613+j0.2226	0.2094+j0.5999	0.2094+j0.4694
500	0.0366	0.0484	0.1711	72.2	41.9	0.0488+j0.1363	0.0484+j0.2146	0.1967+j0.5888	0.1967+j0.4613
630	0.0283	0.0383	0.1888	90.8	43.5	0.0388+j0.1318	0.0383+j0.2070	0.1867+j0.5752	0.1867+j0.4538
800	0.0221	0.0310	0.2099	115.3	45.1	0.0316+j0.1258	0.0310+j0.1991	0.1795+j0.5635	0.1795+j0.4459
800(division)	0.0221	0.0288	0.2204	115.3	46.5	0.0289+j0.1245	0.0288+j0.1962	0.1768+j0.5574	0.1768+j0.4430
1000(division)	0.0176	0.0232	0.2376	144.0	56.2	0.0234+j0.1205	0.0232+j0.1894	0.1713+j0.5448	0.1713+j0.4362
1200(division)	0.0151	0.0201	0.2535	172.7	58.6	0.0204+j0.1176	0.0201+j0.1837	0.1683+j0.5335	0.1683+j0.4304
1400(division)	0.0129	0.0174	0.2656	201.4	60.4	0.0178+j0.1152	0.0174+j0.1796	0.1657+j0.5262	0.1657+j0.4264
1600(division)	0.0113	0.0155	0.2785	230.1	62.4	0.0159+j0.1128	0.0155+j0.1755	0.1638+j0.5187	0.1638+j0.4223

(ZA/ZB/ZC-)YJLW03-64/110kVCable electrical parameters table 2-2

Specification mm²	20℃ conductor DC resistance Q/km	90℃ conductor comminicate resistance Ω/km	Cable Allow μ F/km	Short circuit current kA/Is		Positive and negative sequence impedance Q/km		Zero sequence impedance (cross-connection) Q/km	
				conductor	Metal sleeve	Pin	Parallel spacing	Pin	Parallel spacing
240	0.0754	0.0970	0.1283	34.7	37.0	0.0971+j0.1565	0.0970+j0.2377	0.1694+j0.0698	0.1693+j0.0698
300	0.0601	0.0777	0.1388	43.4	37.6	0.0779+j0.1503	0.0777+j0.2306	0.1491+j0.0681	0.1489+j0.0681
400	0.0470	0.0613	0.1551	57.8	38.0	0.0615+j0.1428	0.0613+j0.2226	0.1320+j0.0660	0.1318+j0.0660
500	0.0366	0.0484	0.1711	72.2	39.2	0.0488+j0.1363	0.0484+j0.2146	0.1172+j0.0640	0.1168+j0.0640
630	0.0283	0.0383	0.1888	90.8	40.6	0.0388+j0.1318	0.0383+j0.2070	0.1048+j0.0623	0.1043+j0.0623
800	0.0221	0.0310	0.2099	115.3	42.2	0.0316+j0.1258	0.0310+j0.1991	0.0952+j0.0604	0.0945+j0.0604
800(division)	0.0221	0.0288	0.2204	115.3	43.5	0.0289+j0.1245	0.0288+j0.1962	0.0906+j0.0600	0.0904+j0.0600
1000(division)	0.0176	0.0232	0.2376	144.0	52.5	0.0234+j0.1205	0.0232+j0.1894	0.0744+j0.0586	0.0741+j0.0586
1200(division)	0.0151	0.0201	0.2535	172.7	54.7	0.0204+j0.1176	0.0201+j0.1837	0.0693+j0.0574	0.0690+j0.0574
1400(division)	0.0129	0.0174	0.2656	201.4	56.4	0.0178+j0.1152	0.0174+j0.1796	0.0652+j0.0566	0.0649+j0.0566
1600(division)	0.0113	0.0155	0.2785	230.1	58.2	0.0159+j0.1128	0.0155+j0.1755	0.0619+j0.0557	0.0615+j0.0557

(ZA/ZB/ZC-)YJLW02-Z-64/110kV Cable electrical parameters table 2-3

Specification mm²	20℃ conductor DC resistance Q/km	90℃ conductor comminicate resistance Q/km	Cable Allow μ F/km	Short circuit current kA/Is		Positive and negative sequence impedance Q/km		Zero sequence impedance (one end grounded)Q/km	
				conductor	Metal sleeve	Pin	Parallel spacing	Pin	Parallel spacing
240	0.0754	0.0970	0.1283	34.7	40.7	0.0971+j0.1579	0.0970+j0.2377	0.2450+j0.6150	0.2450+j0.4845
300	0.0601	0.0777	0.1388	43.4	41.4	0.0778+j0.1517	0.0777+j0.2306	0.2257+j0.6062	0.2257+j0.4774
400	0.0470	0.0613	0.1551	57.8	42.1	0.0615+j0.1449	0.0613+j0.2226	0.2094+j0.5957	0.2094+j0.4694
500	0.0366	0.0484	0.1711	72.2	43.3	0.0487+j0.1384	0.0484+j0.2146	0.1966+j0.5847	0.1966+j0.4613
630	0.0283	0.0383	0.1888	90.8	44.6	0.0388+j0.1331	0.0383+j0.2070	0.1867+j0.5726	0.1867+j0.4538
800	0.0221	0.0310	0.2099	115.3	46.3	0.0316+j0.1271	0.0310+j0.1991	0.1795+j0.5609	0.1795+j0.4459
800(division)	0.0221	0.0288	0.2204	115.3	47.6	0.0289+j0.1258	0.0288+j0.1962	0.1768+j0.5550	0.1768+j0.4430
1000(division)	0.0176	0.0232	0.2376	144.0	57.4	0.0234+j0.1217	0.0232+j0.1894	0.1713+j0.5425	0.1713+j0.4362
1200(division)	0.0151	0.0201	0.2535	172.7	59.9	0.0204+j0.1187	0.0201+j0.1837	0.1683+j0.5312	0.1683+j0.4304
1400(division)	0.0129	0.0174	0.2656	201.4	61.7	0.0178+j0.1163	0.0174+j0.1796	0.1657+j0.5240	0.1657+j0.4264
1600(division)	0.0113	0.0155	0.2785	230.1	63.6	0.0159+j0.1139	0.0155+j0.1755	0.1638+j0.5166	0.1638+j0.4223

(ZA/ZB/ZC-)YJLW03-Z-64/110kV Cable electrical parameters table 2-4

Specification mm²	20℃ conductor DC resistance Q/km	90℃ conductor comminicate resistance Ω/km	Cable Allow μ F/km	Short circuit current kA/Is		Positive and negative sequence impedance Q/km		Zero sequence impedance (cross-connection) Q/km	
				conductor	Metal sleeve	Pin	Parallel spacing	Pin	Parallel spacing
240	0.0754	0.0970	0.1283	34.7	38.0	0.0971+j0.1579	0.0970+j0.2377	0.1676+j0.0703	0.1675+j0.0703
300	0.0601	0.0777	0.1388	43.4	38.7	0.0778+j0.1517	0.0777+j0.2306	0.1471+j0.0686	0.1470+j0.0686
400	0.0470	0.0613	0.1551	57.8	39.3	0.0615+j0.1449	0.0613+j0.2226	0.1297+j0.0666	0.1294+j0.0666
500	0.0366	0.0484	0.1711	72.2	40.5	0.0487+j0.1384	0.0484+j0.2146	0.1150+j0.0647	0.1147+j0.0647
630	0.0283	0.0383	0.1888	90.8	39.4	0.0388+j0.1331	0.0383+j0.2070	0.1031+j0.0628	0.1026+j0.0628
800	0.0221	0.0310	0.2099	115.3	43.2	0.0316+j0.1271	0.0310+j0.1991	0.0936+j0.0609	0.0930+j0.0609
800(division)	0.0221	0.0288	0.2204	115.3	44.5	0.0289+j0.1258	0.0288+j0.1962	0.0892+j0.0605	0.0890+j0.0605
1000(division)	0.0176	0.0232	0.2376	144.0	53.6	0.0234+j0.1217	0.0232+j0.1894	0.0733+j0.0592	0.0731+j0.0592
1200(division)	0.0151	0.0201	0.2535	172.7	55.9	0.0204+j0.1187	0.0201+j0.1837	0.0682+j0.0579	0.0680+j0.0579
1400(division)	0.0129	0.0174	0.2656	201.4	57.6	0.0178+j0.1163	0.0174+j0.1796	0.0642+j0.0571	0.0639+j0.0571
1600(division)	0.0113	0.0155	0.2785	230.1	59.4	0.0159+j0.1139	0.0155+j0.1755	0.0610+j0.0562	0.0606+j0.0562

(ZA/ZB/ZC-)YJLWO2 , (ZA/ZB/ZC-)YJLW02-Z-64/110kV Cable current carrying capacity table 3-1

Specification mm²	A in the air (Not in direct sunlight)		A in the air (Direct sunlight)		A in soil		Soil pipe A	
	Pin	Parallel spacing	Pin	Parallel spacing	Pin	Parallel spacing	Pin	Parallel spacing
240	576	634	404	526	475	523	466	481
300	655	725	459	602	532	591	522	540
400	753	839	528	699	601	674	589	611
500	862	974	604	810	676	767	660	688
630	980	1117	685	929	755	867	736	771
800	1104	1279	770	1063	833	973	820	858
800(division)	1159	1339	807	1112	868	1011	852	886
1000(division)	1293	1523	899	1264	946	1128	924	969
1200(division)	1393	1655	966	1374	1003	1210	991	1036
1400(division)	1491	1794	1032	1489	1058	1296	1043	1098
1600(division)	1577	1919	1090	1591	1104	1369	1084	1151

(ZA/ZB/ZC-)YJLW03, (ZA/ZB/ZC-)YJLW03-Z-64/110kV Cable current carrying capacity table 3-2

Specification mm²	A in the air (Not in direct sunlight)		A in the air (Direct sunlight)		A in soil		Soil pipe A	
	Pin	Parallel spacing	Pin	Parallel spacing	Pin	Parallel spacing	Pin	Parallel spacing
240	589	648	477	575	483	529	470	486
300	670	741	543	659	542	597	527	545
400	770	858	624	765	612	680	594	616
500	884	997	715	887	688	774	666	694
630	1009	1152	816	1024	770	877	744	779
800	1138	1320	920	1174	850	984	829	867
800(division)	1195	1381	965	1228	885	1023	861	896
1000(division)	1335	1573	1078	1398	964	1141	933	**979**
1200(division)	1443	1715	1164	1525	1023	1225	**1001**	**1048**
1400(division)	1546	1861	1246	1654	1080	1311	**1054**	**1111**
1600(division)	1637	1992	1319	1770	1126	1385	1095	1165

Table 3-3 Current carrying capacity correction coefficients for different ambient temperatures in the air

Conductor operating temperature (℃)	Ambient temperature (℃) (in air)							
	20	25	30	35	40	45	50	55
90	**1.20**	1.16	1.11	1.05	1.00	0.94	0.88	0.81

Table 3-4 Current carrying capacity correction coefficient for different soil ambient temperatures

Conductor operating temperature (℃)	Ambient temperature (℃) (in soil)					
	10	15	20	25	30	35
90	1.11	1.07	1.04	1.00	0.96	0.92

Table 3 Current carrying capacity correction coefficients for different thermal resistance coefficients when laying directly buried in soil - 5

Conductor operating temperature (℃)	Soil thermal resistivity (K·m/W)						
	0.7	1.0	1.2	1.5	2.0	2.5	3.0
90	1.20	1.07	1.00	0.91	0.81	0.74	0.68

Table 3: Ampacity correction coefficients for different thermal resistance coefficients when laying pipes through soil - 6

Conductor operating temperature (℃)	Soil thermal resistivity (K·m/W)						
	0.7	1.0	1.2	1.5	2.0	2.5	3.0
90	1.15	1.05	1.00	0.93	0.84	0.78	0.72

Table 3: Current carrying capacity correction coefficients for different burial depths when laying directly in burial - 7

Conductor operating temperature (℃)	Soil laying depth m					
	0.5	0.7	1.0	1.5	2.0	2.5
90	1.10	1.05	1.00	0.95	0.92	0.90

Table 3: Ampacity correction coefficients for different buried depths when laying through pipes directly buried - 8

Conductor operating temperature (℃)	Soil laying depth m					
	0.5	0.7	1.0	1.5	2.0	2.5
90	1.10	1.05	1.00	0.95	0.92	0.90

1) When arranged in a herringbone pattern, the cables touch each other, and when in a pipe, the pipes touch each other;2) When arranged in parallel, the cable axis spacing is 250 mm;

3) The depth in the soil is 1.0 m, The soil thermal resistance coefficient is 1.2 K m/W;

4) Tube road for Plastic material Tube road , (cut noodle ≤ 6 3 0 mm², Tube road Inside path , 1 4 1 mm, Tube road outside path 1 6 0 mm;630mm² < cut noodle ≤ 1 0 0 0 mm², Tube road Inside path , 1 5 8 mm,pipeline Outer diameter 180 mm; Cross-section>1000 mm², Pipe inner diameter, 176 mm, Pipe outer diameter 200

5) The metal sleeve is not directly grounded at both ends;

6) Air temperature is 40℃, soil temperature is 25℃, and air temperature in soil pipe is 40℃.

(ZA/ZB/ZC-)YJLW02, (ZA/ZB/ZC-)YJLW02-Z-127/220kVCable structure parameter table 1-1

Specificationmm²	Conductor structureNo./mm	conductor diametermm	Insulation outer diameter (Including external screen)±1.5mm	Cable outer diameter±4.0mm		Approximate cable weight kg/m			
						graphite		Squeeze bag	
				graphite	Squeeze bag	Non-flame retardant	Flame retardant	Non-flame retardant	Flame retardant
400	61/2.91	23.4±0.2	83.9	119.7	120.7	14.31	14.41	14.55	14.66
500	61/3.30	26.6±0.2	87.1	123.7	124.7	15.77	15.87	16.01	16.12
630	60/3.76	30.0±0.2	88.5	125.1	126.1	17.13	17.23	17.38	17.49
800	88/3.52	34.0±0.2	90.5	127.1	128.1	18.92	19.03	19.18	19.29
800(division)	5×37/2.50	34.6±0.6	92.2	129.8	130.8	19.43	19.54	19.69	19.80
1000(division)	5×37/2.80	38.8±0.6	94.2	132.2	133.2	21.64	21.75	21.91	22.02
1200(division)	5×61/2.36	41.8±0.6	97.2	135.2	136.2	23.62	23.73	23.89	24.01
1400(division)	5×61/2.56	45.6±0.6	101.0	139.0	140.0	25.92	26.04	26.20	26.32
1600(division)	5×61/2.72	48.6±0.6	104.0	142.0	143.0	28.10	28.22	28.39	28.51
1800(division)	5×61/2.90	51.6±0.8	107.0	146.4	147.4	30.60	30.72	30.90	31.02
2000(division)	5×61/3.06	54.6±0.8	110.0	149.4	150.4	32.81	32.93	33.11	33.24
2500(division)	5×88/2.75+19/2.90	60.6±0.8	116.0	155.4	156.4	38.07	38.20	38.38	38.52

(ZA/ZB/ZC-)YJLW03, (ZA/ZB/ZC-)YJLW03-Z-127/220kVCable structure parameter table 1-2

Specificationmm²	Conductor structureNo./mm	conductor diametermm	Insulation outer diameter (Including external screen)±1.5mm	Cable outer diameter±4.0mm		Approximate cable weight kg/m			
				graphite		graphite		Squeeze bag	
				graphite	Squeeze bag	Non-flame retardant	Flame retardant	Non-flame retardant	Flame retardant
400	61/2.91	23.4±0.2	83.9	119.7	120.7	13.53	14.12	13.73	14.32
500	61/3.30	26.6±0.2	87.1	123.7	124.7	14.95	15.56	15.16	15.78
630	60/3.76	30.0±0.2	88.5	125.1	126.1	16.31	16.92	16.52	17.14
800	88/3.52	34.0±0.2	90.5	127.1	128.1	18.09	18.71	18.30	18.93
800(division)	5×37/2.50	34.6±0.6	92.2	129.8	130.8	18.57	19.21	18.79	19.44
1000(division)	5×37/2.80	38.8±0.6	94.2	132.2	133.2	20.77	21.42	20.99	21.65
1200(division)	5×61/2.36	41.8±0.6	97.2	135.2	136.2	22.72	23.40	22.95	23.63
1400(division)	5×61/2.56	45.6±0.6	101.0	139.0	140.0	25.00	25.69	25.24	25.93
1600(division)	5×61/2.72	48.6±0.6	104.0	142.0	143.0	27.16	27.87	27.40	28.11
1800(division)	5×61/2.90	51.6±0.8	**107.0**	146.4	147.4	29.64	30.36	29.88	30.61
2000(division)	5×61/3.06	54.6±0.8	110.0	149.4	150.4	31.82	32.56	32.07	32.82
2500(division)	5×88/2.75+19/2.90	60.6±0.8	116.0	155.4	156.4	37.04	37.81	37.31	38.08

(ZA/ZB/ZC-)YJLW02, (ZA/ZB/ZC-)YJLW02-Z-127/220kVCable electrical parameter table 2-1

Specificationmm²	20℃ conductor DC resistanceΩ/km	90℃ conductor comminicate resistanceΩ/km	cable capacitanceμF/km	Short circuit current kA/Is		Positive and negative sequence impedanceQ/km		Zero sequence impedance (one end grounded)Q/km	
				conductor	Metalset	Pin	Parallel spacing	Pin	Parallel spacing
400	0.0470	0.0613	0.1191	57.8	65.6	0.0614+j0.1611	0.0613+j0.2437	0.2093+j0.5634	0.2093+j0.4271
500	0.0366	0.0484	0.1276	72.2	68.0	0.0486+j0.1551	0.0484+j0.2357	0.1965+j0.5512	0.1965+j0.4191
630	0.0283	0.0383	0.1399	90.8	69.0	0.0386+j0.1483	0.0383+j0.2281	0.1865+j0.5422	0.1865+j0.4115
800	0.0221	0.0309	0.1546	115.3	70.3	0.0313+j0.1414	0.0309+j0.2203	0.1792+j0.5323	0.1792+j0.4036
800(division)	0.0221	0.0287	0.1610	115.3	72.1	0.0288+j0.1402	0.0287+j0.2174	0.1767+j0.5262	0.1767+j0.4008
1000(division)	0.0176	0.0231	0.1773	144.0	79.6	0.0233+j0.1345	0.0231+j0.2105	0.1712+j0.5169	0.1712+j0.3939
1200(division)	0.0151	0.0201	0.1881	172.7	82.3	0.0203+j0.1306	0.0201+j0.2048	0.1682+j0.5076	0.1682+j0.3882
1400(division)	0.0129	0.0174	0.1963	201.4	84.4	0.0176+j0.1278	0.0174+j0.2007	0.1655+j0.5009	0.1655+j0.3841
1600(division)	0.0113	0.0155	0.2050	230.1	86.6	0.0158+j0.1252	0.0155+j0.1967	0.1637+j0.4940	0.1637+j0.3800
1800(division)	0.0101	0.0141	0.2103	258.8	95.3	0.0144+j0.1242	0.0141+j0.1943	0.1623+j0.4888	0.1623+j0.3777
2000(division)	0.0090	0.0128	0.2190	287.4	97.6	0.0131+j0.1219	0.0128+j0.1906	0.1610+j0.4825	0.1610+j0.3740
2500(division)	0.0072	0.0108	0.2369	359.1	102.5	0.0112+j0.1176	0.0108+j0.1837	0.1591+j0.4701	0.1591+j0.3670

(ZA/ZB/ZC-)YJLW03, (ZA/ZB/ZC-)YJLW03-Z-127/220kVCable electrical parameters table 2-2

Specificationmm²	20℃ conductor DC resistanceΩ/km	90℃ conductor comminicate resistanceΩ/km	cable capacitanceμF/km	Short circuit current kA/ls		Positive and negative sequence impedanceQ/km		Zero sequence impedance (cross-connection)Q/km	
				conductor	Metalset	Pin	Parallel spacing	Pin	Parallel spacing
400	0.0470	0.0613	0.1191	57.8	61.3	0.0614+j0.1611	0.0613+j0.2437	0.1050+j0.0712	0.1049+j0.0712
500	0.0366	0.0484	0.1276	72.2	63.5	0.0486+j0.1551	0.0484+j0.2357	0.0907+j0.0697	0.0905+j0.0697
630	0.0283	0.0383	0.1399	90.8	64.4	0.0386+j0.1483	0.0383+j0.2281	0.0801+j0.0678	0.0798+j 0.0678
800	0.0221	0.0309	0.1546	115.3	65.6	0.0313+j0.1414	0.0309+j0.2203	0.0721+j0.0658	0.0717+j0.0658
800(division)	0.0221	0.0287	0.1610	115.3	67.3	0.0288+j0.1402	0.0287+j0.2174	0.0686+j0.0654	0.0685+j0.0654
1000(division)	0.0176	0.0231	0.1773	144.0	74.4	0.0233+j0.1345	0.0231+j0.2105	0.0592+j0.0637	0.0591+j0.0637
1200(division)	0.0151	0.0201	0.1881	172.7	76.9	0.0203+j0.1306	0.0201+j0.2048	0.0550+j0.0625	0.0548+j0.0625
1400(division)	0.0129	0.0174	0.1963	201.4	78.9	0.0176+j0.1278	0.0174+j0.2007	0.0515+j0.0616	0.0513+j0.0616
1600(division)	0.0113	0.0155	0.2050	230.1	80.9	0.0158+j0.1252	0.0155+j0.1967	0.0488+j0.0607	0.0485+j0.0607
1800(division)	0.0101	0.0141	0.2103	258.8	88.9	0.0144+j0.1242	0.0141+j0.1943	0.0444+j0.0604	0.0441+j0.0604
2000(division)	0.0090	0.0128	0.2190	287.4	91.1	0.0131+j0.1219	0.0128+j0.1906	0.0425+j0.0596	0.0421+j0.0596
2500(division)	0.0072	0.0108	0.2369	359.1	95.7	0.0112+j0.1176	0.0108+j0.1837	0.0391+j0.0581	0.0387+j0.0581

(ZA/ZB/ZC-)YJLWO2, (ZA/ZB/ZC-)YJLW02-Z-127/220kVCable current carrying capacity table 3-1

Specificationmm²	A in the air(Not in direct sunlight)		A in the air(Direct sunlight)		A in soil		Soil pipe A	
	Pin	Parallel spacing	Pin	Parallel spacing	Pin	Parallel spacing	Pin	Parallel spacing
400	733	803	502	659	593	672	584	612
500	837	925	572	759	666	764	654	687
630	**954**	1068	652	877	743	868	729	770
800	1075	1223	734	1005	819	976	813	856
800(division)	1123	1276	766	1048	850	1013	843	884
1000(division)	1259	1458	**858**	1197	930	1137	919	971
1200(division)	1359	1594	**925**	1309	986	1225	972	1032
1400(division)	1456	1732	**990**	1422	1041	1316	1038	1098
1600(division)	1542	1857	**1047**	1525	1086	1395	1081	1150
1800(division)	1607	**1953**	**1089**	1603	1121	1458	1113	1191
2000(division)	**1682**	**2067**	**1139**	1697	1158	1527	1147	1235
2500(division)	1823	2291	1231	1880	1224	1655	1206	1318

(ZA/ZB/ZC-)YJLW03, (ZA/ZB/ZC-)YJLW03-Z-127/220kVCable current carrying capacity table 3-2

Specificationmm²	A in 40℃ air(Not in direct sunlight)		A in 40℃ air(Direct sunlight)		25℃ soil A		25℃ soil pipe A	
	Pin	Parallel spacing	Pin	Parallel spacing	Pin	Parallel spacing	Pin	Parallel spacing
400	751	823	600	726	604	681	591	619
500	859	950	687	838	678	774	661	696
630	981	1099	784	970	758	880	738	780
800	1107	1261	886	1113	835	990	823	868
800(division)	1158	1317	926	1162	867	1028	853	896
1000(division)	1301	1507	1040	1331	949	1153	931	984
1200(division)	1407	1650	1124	1457	1006	1243	984	1046
1400(division)	1509	1794	1205	1585	1062	1335	1051	1114
1600(division)	1600	1925	1277	1701	1108	1415	1094	1166
1800(division)	1670	2028	1332	1791	1144	1480	1128	1208
2000(division)	1749	2149	1395	1898	1182	1550	1162	1253
2500(division)	1900	2386	1514	2108	1249	1680	1221	1337

Table 3-3 Current carrying capacity correction coefficients for different ambient temperatures in the air

Conductor operating temperature(℃)	Ambient temperature (℃) (in air)							
	20	**25**	**30**	**35**	**40**	**45**	50	55
90	**1.20**	**1.16**	**1.11**	**1.05**	**1.00**	**0.94**	**0.88**	0.81

Table 3-4 Current carrying capacity correction coefficient for different soil ambient temperatures

Conductor operating temperature(℃)	Ambient temperature (℃) (in soil)					
	10	15	20	25	30	35
90	1.11	1.07	1.04	1.00	0.96	0.92

Table 3-5 Current carrying capacity correction coefficients for different thermal resistance coefficients when laying directly buried in soil

Conductor operating temperature(℃)	Soil thermal resistivity (K·m/W)						
	0.7	1.0	1.2	1.5	2.0	2.5	3.0
90	1.20	1.07	1.00	0.91	0.81	0.74	0.68

Table 3-6 Current carrying capacity correction coefficients for different thermal resistance coefficients when laying pipes through soil

Conductor operating temperature(℃)	Soil thermal resistivity (K·m/W)						
	0.7	1.0	1.2	1.5	2.0	2.5	3.0
90	1.15	1.05	1.00	0.93	0.84	0.78	0.72

Table 3-7 Current carrying capacity correction coefficients for different burial depths when laying directly in burial

Conductor operating temperature(℃)	Soil laying depth m					
	0.5	0.7	1.0	1.5	2.0	2.5
90	1.10	1.05	1.00	0.95	0.92	0.90

Table 3-8 Current carrying capacity correction coefficients for different buried depths when laying through pipes directly

Conductor operating temperature(℃)	Soil laying depth m					
	0.5	0.7	1.0	1.5	2.0	2.5
90	1.10	1.05	1.00	0.95	0.92	0.90

1) When arranged in a herringbone pattern, the cables touch each other, and when in a pipe, the pipes touch each other;

2) When arranged in parallel, the cable axis spacing is 350mm;

3) The depth in the soil is 1.0 m,The soil thermal resistance coefficient is 1.2Km/W;

4) The pipe is a plastic pipe (section ≤ 630 mm²,Pipe inner diameter, 176 mm,Pipe outer diameter 200 mm;630mm²<Cross section≤1200 mm²,Pipe inner diameter, 198 mm, pipelineOuter diameter 225 mm;Section>1200 mm²,Pipe inner diameter, 220 mm,Pipe outer diameter 250mm);

5) The metal sleeve is not directly grounded at both ends;

6) Air temperature is 40℃, soil temperature is 25℃, and air temperature in soil pipe is 40℃.