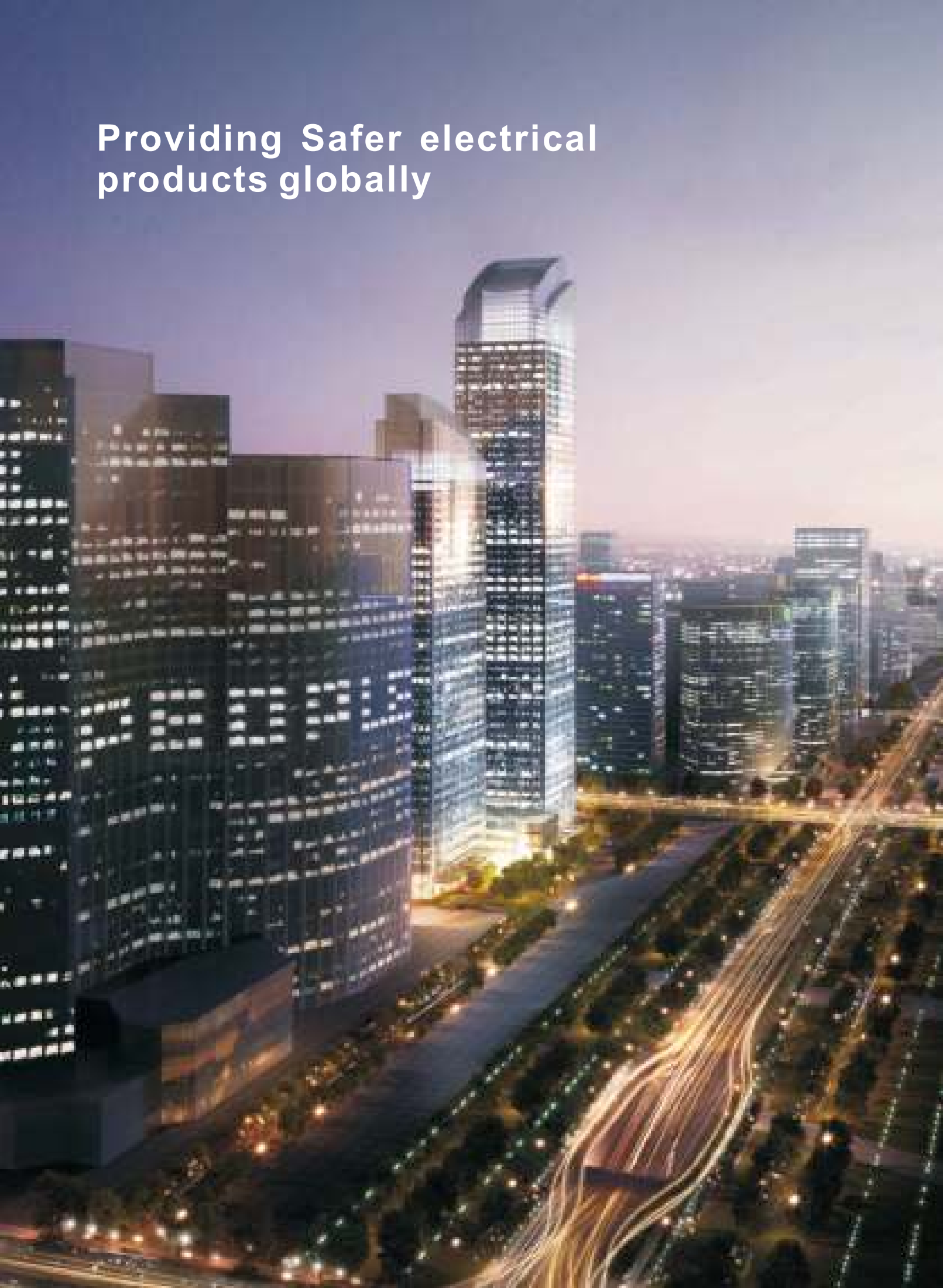
PEOPLE

Power Transmisson & Distribution

PEOPLE ELECTRIC
PRODUCT SALES MANUAL

人民电器

Providing Safer electrical products globally



COMPANY PROFILE

People Ele. Appliance Group was wholly owned company of People Holding Group, one of Chinese Top 500 Enterprise, and founded in the year 1996.

Industrial electrical products as the core business of People Ele. Appliance Group, People Electric owns Zhejiang, Shanghai, Nanchang , Fuzhou, Nantong and Zaozhuang six manufacturing bases, 35 wholly owned subsidiaries, 150 holding member enterprises, over 1500 cooperated processing enterprises and over 5000 sales companies.

The products are popularly sold to over 125 countries and regions, which are widely used in Pudong Airport, Beiing-Shanghai high-speed railway, Three Gorges Hydropower, Beijing Subway, Olympic venues, South North Water Transfer, Qinghai-Tibet Railway, Chang'e Lunar Exploration Project and Vietnam Taian hydropower project etc. major projects at home and abroad, which ranked among the World's Top 500 Machinery Enterprises.

Assess by the World's Brand Laboratory, the brand value reaches to RMB 101.636 bilion Yuan.

Perfect industry chain and personalize solutions, Satisfying the different requirements of global customers

Power and energy
- Power
- Petroleum and petrochemical
- Transportation

Industry and machinery
- Mining / building materials
- Water / water treatment
- Car

Date center
- IT
- High technology
- Internet

Commercial network
- Bank insurance
- Public construction
- Community facility

Building
- Official building
- Industrial building
- Basic facility

Residence
- Residential construction
- Public construction
- Community facility

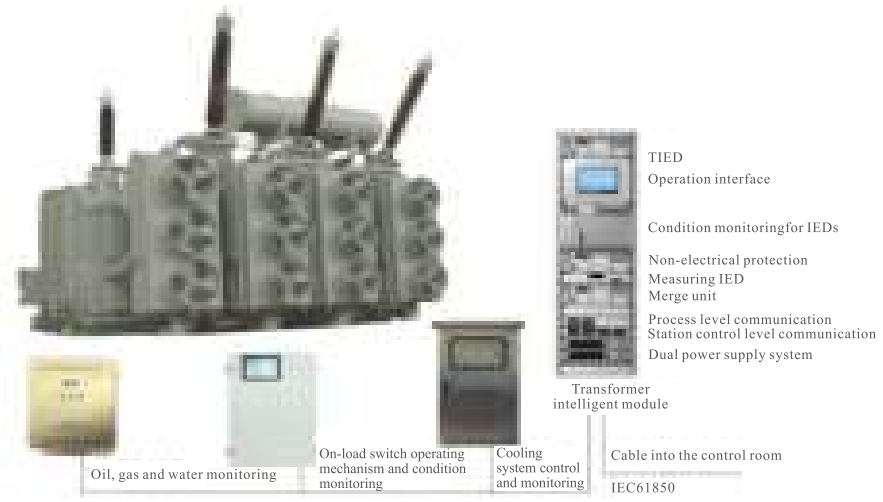
More safety	More reliale	More efficient	More economic	More eco-friendly
Ensure the safety of life and property	Supply the power uninterruptedly	Reducing the consumption of energy and the cost, shorten the time of supply	Optimize the process of the machinery and factory, improving the comfortability of use.	Supply the energy through the renewable energy, reducing the carbon emissions

Contents

POWER TRANSFORMER

People Electric
Appliance serves for people.

Intellectualization function and type selection



Transformer built-in, external various sensors and intelligent components;
All signals are collected to the transformer intelligent component cabinet summary, transmission through the optical fiber network, remote intelligent regulation and monitoring, to achieve true "no one on duty".

The intelligent power transformer adds the following additional functions and accessories on the basis of the conventional power transformer functions:

Serial Number	Intelligent function	Intelligent components required	Remarks
1	Winding fiber temperature measurement	Winding fiber online temperature measuring device	It can monitor the temperature rise of the top oil and the temperature rise of the iron core at the same time, and the number of temperature measurement points can be customized
2	Iron core grounding current online monitoring	Iron core grounding current on-line monitoring device	
3	Innings placed on line monitoring	Place on line monitoring device	Transformer body and bushing can be monitored
4	Oil chromatography online monitoring	Oil chromatographic on-line monitoring device	Up to 8 kinds of gas + micro water can be monitored
5	Oil level 4~20mA signal output value display	Oil level meter remote digital display instrument	
6	Oil discharge nitrogen injection fire fighting onitoring	Oil discharge nitrogen injection fire extinguishing device	
7	Cooling system control and monitoring	Cooler control cabinet	Manual, automatic free switching
8	Intelligent signal summary and remote transmission	Intelligent component cabinet, intelligent terminal, merging unit	Can choose the need for remote transmission signal

Customers can freely combine and choose the above intelligent functions and intelligent components, and the above intelligent components also have their own background system, which can be independent and remote transmission, that is, there is no need to configure intelligent component cabinets, intelligent terminals, and combined units. Multiple transformers can also share a background system to monitor multiple transformers at the same time.

35KV INTELLIGENT THREE-PHASE ON-LOAD VOLTAGE REGULATION POWER TRANSFORMER

The main technical parameters

35kV three-phase oil-immersed on-load voltage regulation power transformer has adopted a series of major reforms in material, process and structure, and has the characteristics of small size, light weight, high efficiency, low loss, low noise and reliable operation, which can reduce a large number of power grid losses and operating costs, and has significant economic benefits. It is suitable for power plants, substations, large factories and mining enterprises.

This product conforms to national standards: IEC70076.11 "Power transformers Part 1 General Provisions", IEC70076.11 "Power transformers Part 2 Temperature rise",GB1094.3-2003 "Power transformers Part 3 insulation level, insulation test and external insulation air gap", GB1094.5-2003 "Power transformers Part 5 ability to withstand short circuit", "Three phase oil immersed power transformer technical parameters and requirements".

Type number and its implication

□ □ □ □ □ □ □-□/□ □

- Protection code (generally not marked, TH- wet heat, TA- dry heat)
- High voltage winding rated voltage class (kV)
- Rated capacity(kVA)
- Design serial number (18、20、22)
- Voltage regulation mode (no excitation
- Wire mode (copper wire not marked, L-aluminum wire)
- Number of windings (double unmarked, S-triple, F-double split)
- Circulation mode (natural circulation non-standard, P-forced circulation)
- Cooling method (J- Self cooling not marked, F- oil immersed air cooling, S- water cooling)
- Phase (D- single, S-Three phase)

35KV INTELLIGENT THREE-PHASE ON-LOAD VOLTAGE REGULATION POWER TRANSFORMER

Environmental conditions for use

1, device type: outdoor type

2. Ambient temperature: maximum temperature +40℃, minimum temperature -30℃

3, altitude: ⩽1000 meters (>1000 meters, temperature rise needs to be corrected)

4, relative temperature: ⩽90%(25℃)

5, installation site: no corrosive gas, no obvious dirt and other areas

Technical parameters

630kVA-31500kVA three-phase double-winding unexcited voltage regulating power transformer

Rated capacity (kVA)	Voltage combination and tap range			Coupling group Label	No load loss kW(9)	Load loss kW(9)	No-load current %	Short circuit impedance %
	High voltage (kV)	High voltage tap range	Low voltage(kV)					
630	35	±2×2.5%±5	3.15 6.3 10.5	Yd11	0.660	7.47	0.52	6.5
800					0.780	8.93	0.52	
1000					0.920	10.9	0.52	
1250					1.12	13.2	0.44	
1600					1.35	15.8	0.36	
2000					1.74	17.4	0.36	
2500					2.05	18.6	0.36	
3150	35-38.5	±2×2.5%±5	3.15 6.3 10.5		2.40	21.9	0.36	7.0
4000					2.90	25.9	0.36	
5000					3.50	29.7	0.36	
6300					4.20	33.3	0.36	
8000	35-38.5	±2×2.5%	3.15 3.3 6.3 6.6 10.5	YNd11	5.80	36.5	0.28	8.0
10000					7.00	43.0	0.28	
12500					8.00	51.1	0.24	
16000					9.70	62.5	0.24	
20000					11.5	75.5	0.24	
25000					13.6	89.3	0.20	10.0
31500					16.2	106.4	0.20	

The no-load loss values in the above parameter table are the Chinese national standard type 18 parameter values. The company can customize them according to the actual needs of users.

35KV INTELLIGENT THREE-PHASE ON-LOAD VOLTAGE REGULATION POWER TRANSFORMER

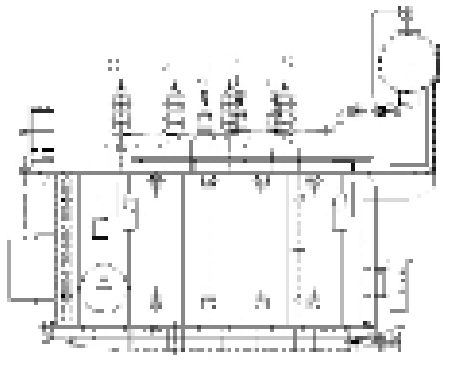
2000kVA-31500kVA three-phase double-winding on-load voltage regulating power transformer

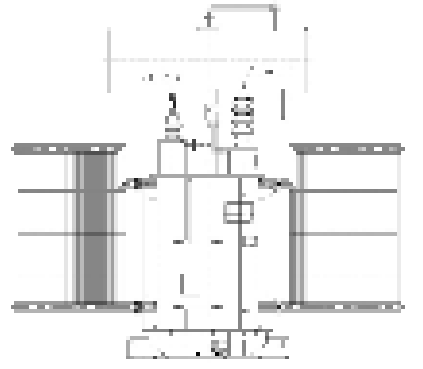
Rated capacity (kVA)	Voltage combination and tap range			Coupling group Label	No load loss kW(9)	Load loss kW(9)	No-load current %	Short circuit impedance %
	High voltage (kV)	High voltage tap range	Low voltage(kV)					
2000	35	±3×2.5%	6.3 10.5	Yd11	1.84	18.2	0.40	6.5
2500					2.18	19.6	0.40	
3150	35-38.5				2.60	23.5	0.40	7.0
4000					3.10	27.6	0.40	
5000					3.70	32.5	0.40	
6300					4.50	34.9	0.40	
8000	35-38.5		6.3 6.6 10.5	YNd11	6.30	38.6	0.32	8.0
10000					7.40	45.6	0.32	
12500					8.70	54.0	0.28	
16000					10.5	66.8	0.28	
20000					12.4	78.6	0.28	
25000					14.6	92.9	0.24	10.0
31500					17.4	110.2	0.24	

1, according to user requirements, can produce products outside the capacity of the table, its performance parameters depending on the requirements.
2, according to different operating environments, we can provide specially designed products.
3, the medium voltage can be selected to be different from the voltage value in the table or tap, high pressure tap to choose asymmetric voltage regulation tap.
4, short circuit impedance can be selected different from the table median value.
5. The final size shall be subject to the drawing confirmation after the contract is signed.

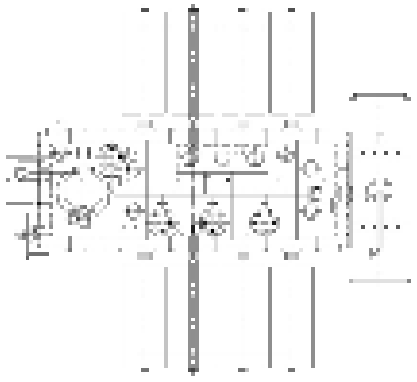
Features of the organization

35kV three-phase double-winding on-load regulating power transformer

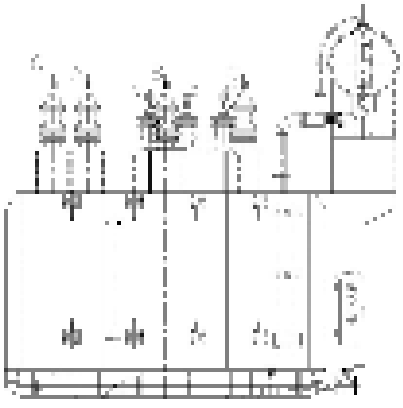


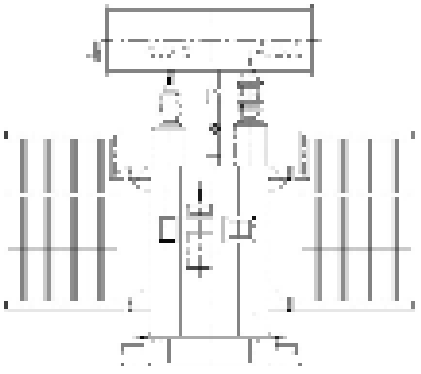


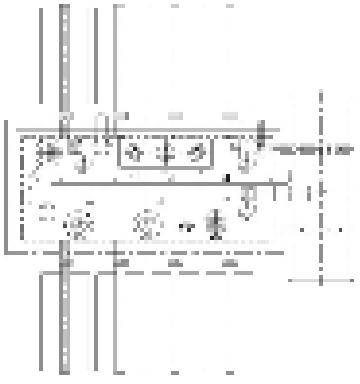
35KV INTELLIGENT THREE-PHASE ON-LOAD VOLTAGE REGULATION POWER TRANSFORMER

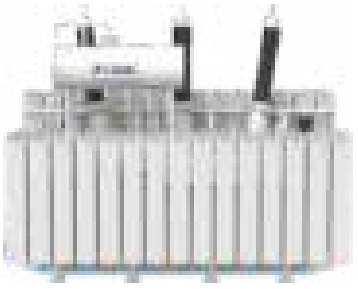


35kV three-phase double-winding unexcited voltage regulating power transformer









66KV INTELLIGENT THREE-PHASE ON-LOAD VOLTAGE REGULATION POWER TRANSFORMER

Performance parameters

The rated capacity, voltage combinations and tapping range, connection group notation, no-load losses, load losses, no-load current, and short-circuit impedance should comply with the provisions of IEC.

When the number of tapping steps and the step voltage remain unchanged, it is permissible to increase the number of negative tapping steps and reduce the number of positive tapping steps, or to increase the number of positive tapping steps and reduce the number of negative tapping steps. For example: 66±3×2.5%, 66±3×25%, etc.

When users require transformers with short-circuit impedance values different from those specified in the table, their loss and other performance parameters should be negotiated with the manufacturer and specified in the contract.

Technical parameters

66 kV, 630 kVA ~ 63,000 kVA Three-Phase Double-Winding Off-Load Tap-Changing Power Transformers

Rated capacity (kVA)	Voltage combination and tap range			Coupling group Label	No load loss kW(9)	Load loss kW(9)	No-load current %	Short circuit impedance %
	High voltage (kV)	High voltage tap range	Low voltage(kV)					
630	63 66 69	±5	6.3 6.6 10.5	Yd11	0.96	6.75	0.90	8
800					1.20	8.08	0.85	
1000					1.36	9.31	0.80	
1250					1.60	11.3	0.80	
1600					1.92	13.3	0.80	
2000					2.24	15.8	0.75	

The no-load loss values in the above parameter table are the Chinese national standard type 18 parameter values. The company can customize them according to the actual needs of users.

66KV INTELLIGENT THREE-PHASE ON-LOAD VOLTAGE REGULATION POWER TRANSFORMER

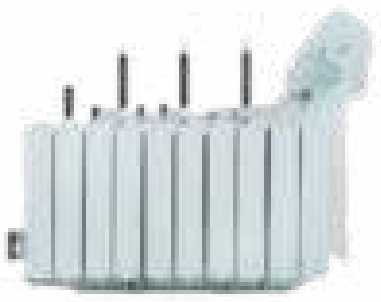
110kV three-phase double-winding unexcited voltage regulating power transformer

Rated capacity (kVA)	Voltage combination and tap range			Coupling group Label	No load loss (kW)	Load loss (kW)	No-load current %	Short circuit impedance %
	H V (kV)	High voltage tap range	Low voltage(kV)					
2500	63 66 69	±5	6.3 6.6 10.5	Yd11	2.72	18.6	0.75	8
3150				YNd11	3.20	21.9	0.70	
4000					3.80	25.9	0.64	
5000					4.60	29.2	0.54	
6300		±2×2.5			5.80	32.5	0.48	9
8000					7.10	38.5	0.48	
10000					8.40	45.4	0.45	
12500					9.90	54.0	0.45	
16000					12.0	66.3	0.42	
20000					14.1	80.4	0.42	
25000					16.6	95.0	0.38	
31500					19.7	114	0.35	
40000					23.5	134	0.35	
50000					28.2	158	0.32	
63000					33.3	188	0.29	

166 kV, 6,300 kVA ~ 63,000 kVA Three-Phase Double-Winding On-Load Tap-Changing Power Transformers

Rated capacity (kVA)	Voltage combination and tap range			Coupling group Label	No load loss (kW)	Load loss (kW)	No-load current %	Short circuit impedance %
	H V (kV)	High voltage tap range	Low voltage(kV)					
6300	63 66 69	±4×1.25 ±6×1.25 ±8×1.25	6.3 6.6 10.5	YNd11	6.40	32.5	0.48	9
8000					7.70	38.5	0.48	
10000					9.00	45.4	0.45	
12500					10.7	54.0	0.45	
16000					12.9	66.3	0.42	
20000					15.4	80.4	0.42	
25000					18.2	95.0	0.38	
31500					21.5	114	0.35	
40000					25.8	134	0.35	
50000					30.4	158	0.32	
63000					35. 6	188	0. 29	10 ~ 12

The no-load loss values in the above parameter table are the Chinese national standard type 18 parameter values. The company can customize them according to the actual needs of users.



110KV INTELLIGENT THREE-PHASE ON-LOAD VOLTAGE REGULATOR ELECTRIC TRANSFORMER

Overview

110kV three-phase oil-immersed on-load voltage regulation power transformer has adopted a series of major reforms in material, process and structure. It has the characteristics of small size, light weight, high efficiency, low loss, low noise and reliable operation, which can reduce a lot of power grid losses and operating costs, and has significant economic benefits. It is suitable for power plants, substations, large factories and mining enterprises.

This product conforms to the national standards: IEC70076.11 "Power transformer Part 1 General provisions", IEC70076.11 "Power transformer Part 2 temperature rise", GB/T 6451-2023"Power transformer Part 3 insulation level, insulation test and external insulation air gap"

IEC70076.11 "Power transformer Part 5 ability to withstand short circuit", "three-phase oil-immersed power transformer technical parameters and requirements".

Model and meaning

□ □ □ □ □ □ □-□/□ □

- Protection code (generally unmark, TH- wet heat, TA- dry heat)
- High voltage winding rated voltage class (kV)
- Rated capacity(kVA)
- Design serial number (18、20、22)
- Voltage regulation mode (no excitation)
- Wire mode (copper wire not marked, L-aluminum wire)
- Number of windings (double unmarked, S-triple, F-double split)
- Circulation mode (natural circulation non-standard, P-forced circulation)
- Cooling method (J- Self cooling not marked, F- oil immersed air cooling, S- water cooling)
- Phase (D- single, S-Three phase)

110KV INTELLIGENT THREE-PHASE NO-LOAD VOLTAGE REGULATION POWER TRANSFORMER

Enabling

1, device type: outdoor type

2. Ambient temperature: maximum temperature +40°C, minimum temperature -30°C

3, altitude: ⩽1000 meters (>1000 meters, temperature rise needs to be corrected)

4, relative temperature: ⩽90%(25°C)

5, installation site: no corrosive gas, no obvious dirt and other areas

Technical parameters

110kV three-phase double-winding unexcited voltage regulating power transformer

Rated capacity (kVA)	Voltage combination and tap range		Coupling group Label	No load loss kW(9)	Load loss kW(9)	No-load current %	Short circuit impedance %
	High voltage(kV)	Low voltage(kV)					
6300	110±2×2.5% 115±2×2.5% 121±2×2.5%	6.3 6.6 10.5	YNd11	5.90	33.0	0.50	10.5
8000				7.10	40.0	0. 50	
10000				8. 40	48.0	0. 46	
12500				9.90	56.0	0. 46	
16000				12.0	69.0	0.43	
20000				14.1	84.0	0.43	
25000				16.6	99.0	0. 40	
31500				19.7	117	0. 38	
40000				23.5	141	0. 36	
50000				28.2	166	0. 34	
63000				33.3	198	0. 30	
75000		13.8 15.75 18 21		37.8	224	0. 26	12~14
90000				43.5	258	0.24	
120000				54.2	320	0.22	
150000				64.1	379	0.19	
180000				72.0	434	0.16	

The no-load loss values in the above parameter table are the Chinese national standard type 18 parameter values. The company can customize them according to the actual needs of users.

Note 1, -5% tap position for maximum current tap.

Note 2, for the boost transformer, it is appropriate to use the tapless structure. If required by operation, tap can be set.

Note 3, when the transformer annual average load rate is between 45%-46%, the loss value in the table can be used to obtain the highest operating efficiency.

110KV INTELLIGENT THREE-PHASE NO-LOAD VOLTAGE REGULATING POWER TRANSFORMER

6300kVA-63000kVA three-phase three-winding unexcited voltage regulating power transformer

Rated capacity (kVA)	Voltage combination and tap range			Coupling group Label	No load loss kW(9)	Load loss kW(9)	No-load current %	Short circuit impedance %	
	High voltage(kV)	Medium voltage(kV)	Low voltage(kV)					Open voltage	Depressurize
6300	110±2×2.5% 115±2×2.5% 121±2×2.5%	35 37 38.5	6.3 6.6 10.5 21	Ynyn 0d11	7.10	42.0	0.53	High-medium 17.5~18.5 High - Low 10.5 Medium-Low 6.5	High-medium 10.5 High-Low 18 ~ 19 Medium-low 6.5
8000					8.50	50.0	0.50		
10000					10.1	59.0	0.47		
12500					11.8	70.0	0.45		
16000					14.3	86.0	0.42		
20000					16.9	101	0.42		
25000					19.7	120	0.38		
31500					23.5	142	0.38		
40000					27.8	170	0.35		
50000					33.3	202	0.35		
63000					39.4	243	0.32		

The no-load loss values in the above parameter table are the Chinese national standard type 18 parameter values. The company can customize them according to the actual needs of users.

6300KVA-63000KVA THREE-PHASE DOUBLE-WINDING ON-LOAD VOLTAGE REGULATION POWER TRANSFORMER

Rated capacity (kVA)	Voltage combination and tap range		Coupling group Label	No load loss kW(9)	Load loss kW(9)	No-load current %	Short circuit impedance %
	High voltage(kV)	Low voltage(kV)					
6300	110±8×1.25%	6.3 6.6 10.5 21	YNd11	6.40	33.0	0.51	10.5
8000				7.70	40.0	0.47	
10000				9.00	48.0	0.47	
12500				10.7	56.0	0.47	
16000				12.9	69.0	0.44	
20000				15.4	84.0	0.44	
25000				18.2	99.0	0.41	

The no-load loss values in the above parameter table are the Chinese national standard type 18 parameter values. The company can customize them according to the actual needs of users.

110KV INTELLIGENT THREE-PHASE ON-LOAD VOLTAGE REGULATION POWER TRANSFORMER

Rated capacity (kVA)	Voltage combination and tap range		Coupling group Label	No load loss kW(9)	Load loss kW(9)	No-load current %	Short circuit impedance %
	High voltage(kV)	Low voltage(kV)					
31500	110±8×1.25%	6.3	YNd11	21.6	117	0.41	10.5
40000		6.6		25.8	148	0.37	10.5~18
50000		10.5		30.6	184	0.37	
63000		21		36.3	220	0.34	

Note 1, load regulating transformer, temporarily provide buck structure products.
Note 2, according to user requirements, can provide other voltage combination products.
Note 3, -10% tap position is the maximum current tap.
Note 4, when the transformer annual average load rate is between 45%-50%, the loss value in the table can be used to obtain the highest operating efficiency.

110kV THREE-PHASE DOUBLE-WINDING UNEXCITED VOLTAGE REGULATING POWER TRANSFORMER

Rated capacity (kVA)	Voltage combination and tap range			Coupling group Label	No load loss kW(9)	Load loss kW(9)	No-load current %	Short circuit impedance %
	High voltage(kV)	Medium voltage(kV)	Low voltage(kV)					
6300	110±8×1.25%	36 37 38.5	6.3 6.6 10.5 21	YNyn0d11	7.70	42.0	0.61	High-medium 10.5 High-Low 18 ~ 19 Medium-low 6.5
8000					9.20	50.0	0.61	
10000					10.9	59.0	0.57	
12500					12.9	70.0	0.57	
16000					15.4	86.0	0.54	
20000					18.2	101	0. 54	
25000					21.6	120	0.50	
31500					25.7	142	0. 50	
40000					30.8	170	0.46	
50000					36.4	202	0.46	
63000					43.3	243	0.42	

The no-load loss values in the above parameter table are the Chinese national standard type 18 parameter values. The company can customize them according to the actual needs of users.

Note 1, load regulating transformer, temporarily provide buck structure products.
Note 2, high, medium and low voltage winding capacity allocation is (100/100/100)%.
Note 3. The connection group label can be YNd11y10 if required.
Note 4. The -10% tap position is the maximum current tap.
Note 5. According to user requirements, the medium voltage can be selected to be different from the voltage value in the table or set the tap.
Note 6, when the transformer annual average load rate is about 47%, the loss value in the table can be used to obtain the highest operating efficiency.

110KV GRADE INTELLIGENT THREE-PHASE ON-LOAD VOLTAGE REGULATION POWER TRANSFORMER

6300kVA-63000kVA three-phase double-winding low-voltage 35kV

Rated capacity (kVA)	Voltage combination and tap range		Coupling group Label	No load loss kW(9)	Load loss kW(9)	No-load current %	Short circuit impedance %
	High voltage(kV)	Low voltage(kV)					
6300				6.40	35.0	0.54	
8000				7.70	42.0	0.54	
10000				9.0	49.0	0.50	
12500				10.5	59.0	0.50	
16000	110±2×2.5%	36		12.5	72.0	0.46	
20000	115±2×2.5%	37	YNd11	14.8	89.0	0.46	10.5
25000	121±2×2.5%	38.5		17.5	105	0.42	
31500				20.7	126	0.42	
40000				24.6	147	0.39	
50000				29.5	183	0.39	
63000				34.9	220	0.36	

The no-load loss values in the above parameter table are the Chinese national standard type 18 parameter values. The company can customize them according to the actual needs of users.

current tap.

Note 2, for the boost transformer, it is appropriate to use the tapless structure. If required by operation, tap can be set.

Note 3, when the average annual load of the transformer is between 44%-47%, the loss value in the table can be used to obtain the highest operating efficiency.

1, according to user requirements, can produce products outside the capacity of the table, its performance parameters depending on the requirements.

2, according to different operating environments, we can provide specially designed products.

3, the medium voltage can be selected to be different from the voltage value in the table or tap, high pressure tap to choose asymmetric voltage regulation tap.

4, short circuit impedance can be selected different from the table median value.

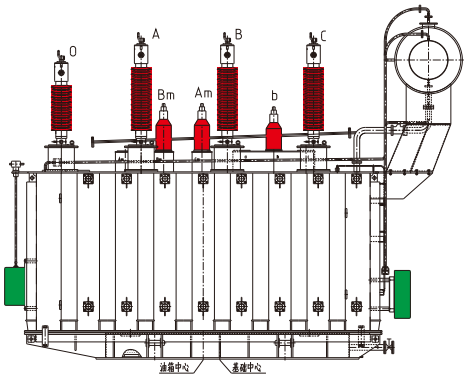
5. The final size shall be subject to the drawing confirmation after the contract is signed.

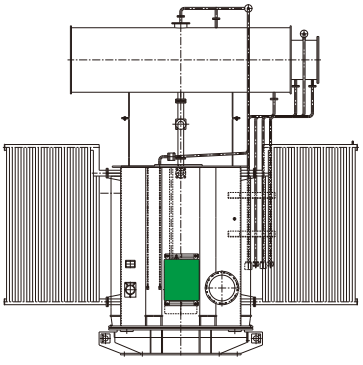
Structural features

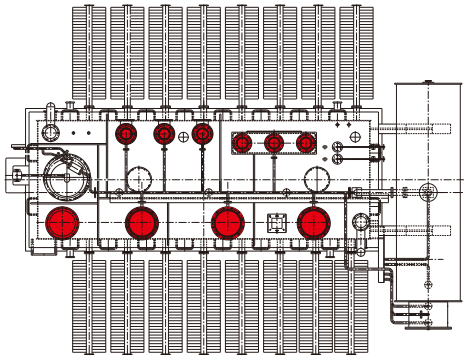
110kV three-phase double winding on-load voltage regulating power transformer

Different specifications of power transformers can be developed according to the special requirements of users.

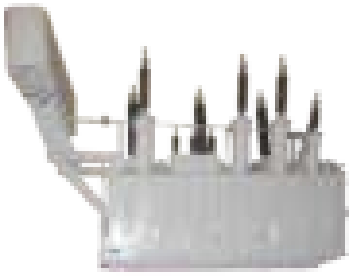
110KV CLASS INTELLIGENT THREE-PHASE ON-LOAD VOLTAGE REGULATING POWER TRANSFORMER







220KV INTELLIGENT THREE-PHASE ON-LOAD VOLTAGE REGULATOR ELECTRIC TRANSFORMER



Overview

220kV three-phase oil-immersed on-load voltage regulation power transformer has adopted a series of major reforms in material, process and structure. It has the characteristics of small size, light weight, high efficiency, low loss, low noise and reliable operation, which can reduce a lot of power grid losses and operating costs, and has significant economic benefits. It is suitable for power plants, substations, large factories and mining enterprises.

This product conforms to the national standards: IEC70076.11 "Power transformer Part 1 General provisions", IEC70076.11 "Power transformer Part 2 temperature rise", GB/T 6451-2023"Power transformer Part 3 insulation level, insulation test and external insulation air gap"

IEC70076.11 "Power transformer Part 5 ability to withstand short circuit", "three-phase oil-immersed power transformer technical parameters and requirements".

Model and meaning

□ □ □ □ □ □ □-□/□ □

- Protection code (generally unmark, TH- wet heat, TA- dry heat)
- High voltage winding rated voltage class (kV)
- Rated capacity(kVA)
- Design serial number (18、20、22)
- Voltage regulation mode (no excitation)
- Wire mode (copper wire not marked, L-aluminum wire)
- Number of windings (double unmarked, S-triple, F-double split)
- Circulation mode (natural circulation non-standard, P-forced circulation)
- Cooling method (J- Self cooling not marked, F- oil immersed air cooling, S- water cooling)
- Phase (D- single, S-Three phase)

220KV INTELLIGENT THREE-PHASE NO-LOAD VOLTAGE REGULATION POWER TRANSFORMER

Technical parameter

31500kVA-420000kVA three-phase double-winding unexcited voltage regulating power transformer

Rated capacity (kVA)	Voltage combination and tap range		Coupling group Label	No load loss kW(9)	Load loss kW(9)	No-load current %	Short circuit impedance %
	High voltage(kV)	Low voltage(kV)					
31500	220±2×2.5% 242±2×2.5%	6.3 6.6 10.5	Ynd11	28.0	128	0.56	12~14
40000				32.0	149	0.56	
50000				39.0	179	0.52	
63000				46.0	209	0.52	
75000		10.5 13.8		53.0	237	0.48	
90000				64.0	273	0.44	
120000				75.0	338	0.44	
150000		1 .5、13.8 15.75 18、20		89.0	400	0.40	
160000				93.0	420	0.39	
180000				102	459	0.36	
240000				128	538	0.33	
300000		15.75 18 20		154	641	0.30	
360000				173	735	0.30	
370000				176	750	0.30	
400000				187	795	0.28	
420000				193	824	0.28	

The no-load loss values in the above parameter table are the Chinese national standard type 18 parameter values. The company can customize them according to the actual needs of users.

Note 1 Transformers with rated capacity less than 31500kVA and transformers with other voltage combinations are also available on request.

Note 2. Transformers with low voltage of 35kV or 38.5kV can also be supplied according to the requirements.

Note 3. Tapless structure is preferred. If required by operation, tap can be set.

Note 4, when the transformer annual average load rate is between 45%-50%, the loss value in the table can be used to obtain the highest operating efficiency.

220KV INTELLIGENT THREE-PHASE NO-LOAD VOLTAGE REGULATION POWER TRANSFORMER

31500kVA-300000kVA three-phase three-winding

Rated capacity (kVA)	Voltage combination and tap range			Coupling group Label	No load loss kW(9)	Load loss kW(9)	No-load current %	Short circuit impedance %	
	High voltage(kV)	Medium voltage(kV)	Low voltage(kV)					Open pressure K \	Depressurize
31500	220±2×2.5% 230±2×2.5% 242±2×2.5%	69 115 121	6.3、6.6 10.5、21 36、37 38.5	Ynyn 0d11	32.0	153	0.56	High-medium 22 ~ 24 High-low 12 ~ 14 Medium-low 7 ~ 9	High - Medium 12 ~ 14 High-low 22 ~ 24 Medium-low7 ~ 9
40000					38.0	183	0.50		
50000					44.0	216	0.44		
63000					52.0	257	0.44		
90000			10.5 13.8 36 37 38.5		68.0	333	0.39		
120000					84.0	410	0.39		
150000			10.5 13.8 15.75 21 36 37 38.5		100	487	0.33		
180000					113	555	0.33		
240000					140	684	0.28		
300000					166	807	0.24		

Note 1 The capacity allocation for load losses in the table is (100/100/100)%. The capacity allocation of the booster structure can be (100/50/100)%, and the capacity allocation of the step-down structure can be (100/50/100)% or (100/50/100)%.
Note 2, Transformers with rated capacity less than 31500kVA and transformers with other voltage combinations can also be provided according to requirements. Note 3, transformers with low voltage of 35kV can also be provided according to the requirements.
Note 4. The tapless structure is preferred. If required by operation, tap can be set.
Note 5, when the transformer annual average load rate is about 45%, the loss value in the table can be used to obtain the highest operating efficiency.

31500kVA-240000kVA low-voltage 66kV three-phase double-winding unexcited voltage regulating power transformer

Rated capacity (kVA)	Voltage combination and tap range		Coupling group Label	No load loss kW(9)	Load loss kW(9)	No-load current %	Short circuit impedance %
	High voltage(kV)	Low voltage(kV)					
31500	220±2×2.5% 230±2×2.5%	63 66 69	Ynd11	30.0	143	0.71	12~14
40000				36.0	167	0.71	
50000				42.0	200	0.65	
63000				50.0	234	0.65	
90000				66.0	306	0.60	
120000				81.0	367	0.60	
150000				97.0	430	0.54	
150000				97.0	430	0.54	
180000				110	487	0.54	
240000				136	603	0.48	

220KV INTELLIGENT THREE-PHASE NO-LOAD VOLTAGE REGULATION POWER TRANSFORMER

Note 1. Tapless construction is preferred. If required by operation, tap can be set.
Note 2, when the transformer annual average load rate is between 45%-50%, the loss value in the table can be used to obtain the highest operating efficiency.

31500kVA-240000kVA three-phase three-winding unexcited voltage regulating autotransformer

Rated capacity (kVA)	Voltage combination and tap range			Coupling group Label	No load loss kW(9)	Load loss kW(9)	No-load current %
	High voltage (kV)	Medium voltage (kV)	Low voltage(kV)				
31500	220±2 ×2.5% 230 ±2 ×2.5% 242±2 ×2.5%	115 121	6.6、10.5 21、36 37、38.5	YNa0 d11	16.0	105	0.36
40000					18.0	129	0.36
50000					22.0	153	0.32
63000					26.0	181	0.32
90000					32.0	249	0.27
120000			10.5、13.8 15.75 18、21、 36、37 38.5		39.0	307	0.27
150000					46.0	365	0.22
180000					54.0	417	0.22
240000					63.0	518	0.21

Boost combination			Short circuit impedance %	
No load loss kW(9)	Load loss kW(9)	No-load current %	step-up voltage	step-down voltage
16.0	89.0	0.32	High-medium 12 ~ 14 High-low 8 ~ 12 Medium-low 14 ~ 18	High - Medium 8 ~ 10 High-low 28 ~ 34 Medium-low 18 ~ 24
16.0	108	0.32		
19.0	129	0.27		
22.0	154	0.27		
29.0	211	0.22		
35.0	259	0. 22		
42.0	308	0.21		
48.0	349	0.21		
57.0	454	0.16		

The no-load loss values in the above parameter table are the Chinese national standard type 18 parameter values. The company can customize them according to the actual needs of users.

220KV INTELLIGENT THREE-PHASE NO-LOAD VOLTAGE REGULATION POWER TRANSFORMER

Note l. The capacity allocation of the booster structure is (100/50/100)%. The capacity allocation of the step-down structure is (100/100/50)%.
Note 2, the value of the short circuit impedance in the table is 100% of the rated capacity.
Note 3. Transformers with a low voltage of35kV are also available upon request
Note 4. The tapless structure drawing is preferred. Ifrequired by operation, tap can be set.
Note 5, when the transformer annual average load rate is about 40%, the loss value in the table canbe used to obtain the highest operating efficiency.

31500kVA-240000kVA three-phase three-winding unexcited voltage regulating autotransformer

Rated capacity (kVA)	Voltage combination and tap range			Coupling group Label	Boost combination			Buck combo			Short circuit impedance %	
	High voltage (kv)	Medium voltage (kV)	Low voltage (kv)		No load loss (kW)	Load loss (kW)	No-load current %	No load loss (kW)	Load loss (kW)	No-load current %	Open pressure	Depressurize
31500	220+2×2.5 230+2×2.5 242+2×2.5	115 121	6.6 10.5 21 36 37 38.5 10.5 13.8 15.75 18 21 36 37 38.5	Yna0d11	16.0	105	0.36	14.0	89	0.32	High-medium 12 ~ 14 High-low 8 ~ 12 Medium-low 14 ~ 18	High - Medium 8 ~ 9 High-low 28 ~ 34 Mediumlow 18 ~ 24
40000					18.0	129	0.36	16.0	108	0.32		
50000					22.0	153	0.32	19.0	129	0.27		
63000					26.0	181	0.32	22.0	154	0.27		
90000					32.0	249	0.27	29.0	211	0.22		
120000					39.0	307	0.27	35.0	259	0.22		
150000					46.0	365	0.22	42.0	308	0.21		
180000					54.0	417	0.22	48.0	349	0.21		
240000					63.0	518	0.21	57.0	454	0.16		

Note I Transformers with a low voltage of35kV are also available upon request.
Note 2. When the average annual load ratio of the transformer is about 50%, the loss value in the table can be used to obtain the highest operating efficiency.

220KV INTELLIGENT THREE-PHASE ON-LOAD VOLTAGE REGULATION POWER TRANSFORMER

Three-phase two-winding on-load voltage regulating power transformer with a voltage class of 220 kV and a capacity range from 31500 kVA to 240000 kVA.

Rated capacity (kVA)	Voltage combination and tap range			Coupling group Label	Boost combination			Short-Circuit Impedance (%)
	High voltage (kV)	Medium voltage (kV)	Low voltage(kV)		No load loss kW	Load loss kW	No-load current %	
31500	220 230	±4×1.25 ±6×1.25 ±8×1.25	6.3 6.6 10.5 21 36 37 38.5	Ynd11	24.0	122	0.46	12~14
40000					29.0	142	0.46	
50000					34.0	170	0.42	
63000					40.0	199	0.42	
90000			10.5 21 36 37 38.5		51.0	259	0.36	
120000					63.0	321	0.36	
150000					74.0	380	0.33	
180000					86.0	436	0.30	
120000			66 69		65.0	320	0.36	
150000					77.0	374	0.33	
180000					90.0	428	0.30	
240000					112	532	0.24	

According to user requirements, a transformer with a low voltage of 35 kV can be selected.
Under the condition of meeting the operating requirements, the fewer the tap stages, the better.

Three-phase three-winding on-load voltage regulating power transformer with a voltage class of 220 kV and a capacity range from 31500 kVA to 240000 kVA.

Rated capacity (kVA)	Voltage combination and tap range				Coupling group Label	Boost combination			Short-Circuit Impedance (%)
	H V (kV)	High voltage Tap Range(%)	M V (kV)	L V (kV)		No load loss kW	Load loss kW	No-load current %	
31500	220 230	±4×1.25 ±6×1.25 ±8×1.25	69 115 121	6.3 6.6 10.5 21 36 37 38.5	Ynyn0 d11	28.0	145	0.50	High-Medium 12~14 High-Low 22~24 Medium-Low 7~9
40000						33.0	174	0.48	
50000						38.0	205	0.48	
63000						45.0	244	0.44	
90000				10.5 21 36 37 38.5		58.0	316	0.35	
120000						74.0	390	0.35	
150000						86.0	463	0.31	
180000						99.0	568	0.31	
240000						123	704	0.28	

220KV INTELLIGENT THREE-PHASE ON-LOAD VOLTAGE REGULATION POWER TRANSFORMER

Three-phase three-winding on-load voltage regulating autotransformer with a voltage class of 220 kV and a capacity range from 31500 kVA to 240000 kVA.

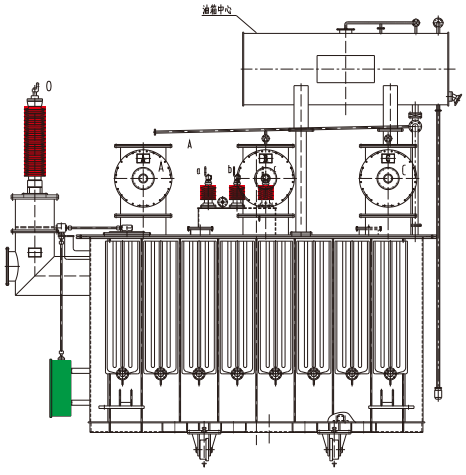
Rated capacity (kVA)	Voltage combination and tap range				Coupling group Label	Boost combination			Short-Circuit Impedance (%)
	H V (kV)	High voltage Tap Range(%)	M V (kV)	L V (kV)		No load loss kW	Load loss kW	No-load current %	
31500	220 230	±4×1.25 ±6×1.25 ±8×1.25	115 121	6.3 6.6 10.5 21 36 37 38.5 10.5 21 36 37 38.5	Yna0 d11	16.0	97.0	0.35	High-Medium 8~11 High-Low 28~34 Medium-Low 18~24
40000						19.0	119	0.35	
50000						22.0	142	0.31	
63000						26.0	170	0.31	
90000						32.0	222	0.26	
120000						41.0	277	0.26	
150000						48.0	329	0.22	
180000						54.0	378	0.22	
240000						66.0	487	0.19	

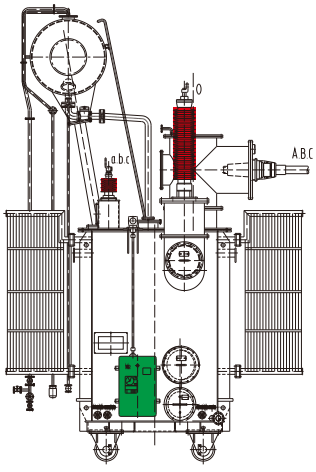
The listed data is applicable to step-down structure products with a capacity distribution of (100/100/50)%.
According to user requirements, a transformer with a low voltage of 35 kV can be selected.
Under the condition of meeting the operating conditions, the fewer the tap stages, the better.

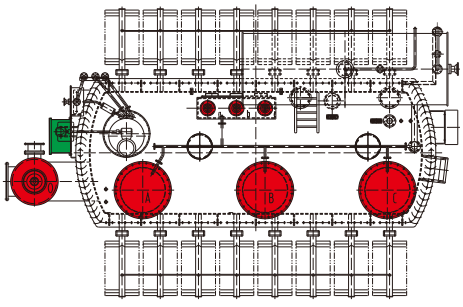
220KV INTELLIGENT THREE-PHASE NO-LOAD VOLTAGE REGULATION POWER TRANSFORMER

Structural features

220kV class three-phase double-winding on-load voltage regulating power transformer
According to the special requirements

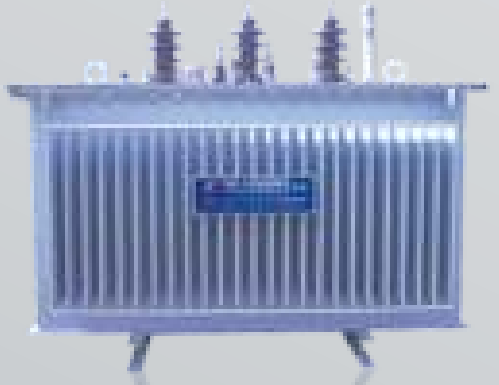






DISTRIBUTION TRANSFORMER

People Electric
Appliance serves for people.



SC(B)11, SCR11,SERIES RESIN-INSULATED DRY TYPE TRANSFORMERS

SCB11 series epoxy resin cast dry type power transformer technical parameters:

Rated capacity (kVA)	loss (W)		Short-circuit impedance (%)	No-load current(%)	Vector group	Overall dimensions (mm) LxWxH	Mounting dimensions (mm)
	No-load loss	Load loss Grade F					
30	170	710	4	2.3	Yyn0/ Dyn11	880×660×800	400×400
50	240	1000	4	2.2		910×660×860	400×400
80	330	1380	4	1.7		970×660×950	550×550
100	360	1570	4	1.7		980×660×975	550×550
125	420	1850	4	1.5		1030×660×1015	550×550
160	480	2130	4	1.5		1070×660×1030	550×550
200	550	2530	4	1.3		1130×660×1085	550×500
250	640	2760	4	1.3		1150×660×1090	550×550
315	790	3470	4	1.1		1150×660×1100	660×660
400	880	3990	4	1.1		1200×770×1110	820×820
500	1040	4880	4	1.1		1320×860×1130	820×820
630	1200	5880	4	0.9		1420×960×1100	820×820
630	1170	5960	6	0.9		1420×960×1150	820×820
800	1360	6960	6	0.9		1500×960×1190	820×820
1000	1590	8130	6	0.9		1550×960×1220	820×820
1250	1880	9690	6	0.9		1620×1050×1250	1070×1070
1600	2200	11730	6	0.9		1690×1255×1360	1070×1070
2000	2740	14450	6	0.7		1700×1255×1460	1070×1070
2500	3240	17170	6	0.7		1920×1255×1480	1070×1070

SCB12 SERIES EPOXY RESIN CAST DRY TYPE TRANSFORMER

The main technical parameters

Technical parameters of epoxy resin cast dry type transformer (New NX3)

Rated capacity (kVA)	Connection group label	No-load loss(W)	Load loss Class F (W)	No-load current (%)	Short circuit impedance(%)	Mounting dimensions (mm)	Overall dimensions (mm) LXWXH
30	Yyn0 or Dyn11	150	710	2.3	4.0	400×400	880×660×800
50		215	1000	2.2		400×400	910×660×860
80		295	1380	1.7		400×400	970×660×950
100		320	1570	1.7		400×400	980×660×975
125		375	1850	1.5		550×550	1030×660×985
160		430	2130	1.5		550×550	1070×660×1000
200		495	2530	1.3		550×550	1130×660×1055
250		575	2760	1.3		550×550	1150×660×1060
315		705	3470	1.1		660×660	1200×770×960
400		785	3990	1.1		660×660	1190×770×980
500		930	4880	1.1		660×660	1220×770×1000
630		1070	5880	0.9		820×850	1370×960×1005
630		1040	5960	0.9	6.0	820×850	1370×960×1005
800		1215	6960	0.9		820×900	1440×960×1030
1000		1415	8130	0.9		820×820	1500×960×1045
1250		1670	9690	0.9		820×820	1550×960×1095
1600		1960	11730	0.9		820×1070	1620×1200×1195
2000		2440	14450	0.7		820×1070	1730×1200×1390
2500		2880	17170	0.7		1070×1070	1780×1200×1430

SC(B)13 SERIES EPOXY RESIN CAST ENERGY SAVING DRY TYPE DISTRIBUTION TRANSFORMER

Product overview

SCB13 energy-saving dry distribution transformer is based on the absorption of foreign advanced technology and advanced experience in the same industry, through our company's scientific and reasonable electromagnetic calculation and new pouring process, design and development of a new generation of energy-saving, environmentally friendly dry distribution transformer, products with flame retardant, fire proof, explosion-proof, small size, maintenance-free, pollution-free and other characteristics. The product is widely used in urban power grid, high-rise buildings, business centers, theaters, hospitals, hotels, tunnels, subways, underground power stations, laboratories, stations, wharfs, airports, combined substations and other important places.

SCB13 energy-saving dry distribution transformer core adopts a new all-inclined, seven-step cascade joint form. Compared with the conventional joint core, it can reduce the magnetic density at the joint by about 22%, reduce the no-load loss by about 3%, reduce the transformer noise by 2-3 dB, and reduce the no-load current by about 40%. Stack 7 pieces ata time, which greatly improves the stack efficiency. The clamping parts are made of automatic laser cutting steel plate CNC bending structure. The bending parts have the advantages of fewer parts, high machining precision, accurate positioning, simple assembly, simple surface treatment and painting process. PET(H class) insulation material is used for core insulation to ensure that the transformer will not produce discharge, leakage, breakdown and other phenomena; Clip from the whole look smooth lines, smooth appearance, and beautiful.

Main technical parameters

SCB13 series epoxy resin cast cast energy-saving dry type distribution transformer technical parameters

Rated capacity (kVA)	Voltage groupus				No-load loss (W)	Load loss (W)	No-load current (%)	Short circuit impedance (%)
	High voltage (kV)	High pressure tap range	Low pressure (kV)	Connection group Label				
30	10 10.5 11	±5%; or ±2×2.5	0.4	Dyn11 or Yyn0	130	640	1.7	4.0
50					195	900	1.7	
80					265	1240	1.5	
100					290	1415	1.5	
160					385	1915	1.3	
200					445	2275	1.1	
250					515	2485	1.1	
315					635	3125	1.0	
400					705	3591	1.0	
500					835	4390	1.0	
630					935	5365	0.8	6.0
800					1095	6265	0.8	
1000					1275	7315	0.8	
1250					1505	8720	0.8	
1600					1765	10555	0.7	
2000					2195	13005	0.7	
2500					2590	15455	0.6	

SCB14 SERIES EPOXY RESIN CAST DRY TYPE TRANSFORMER

The main technical parameters

Technical parameters of epoxy resin cast dry type transformer (NewNX2)

Rated capacity (kVA)	Connection group label	No-load loss(W)	Load loss Class F (W)	No-load current (%)	Short circuit impedance (%)	Mounting dimensions (mm)	Overall dimensions (mm) LXWXH
30	Yyn0 or Dyn11	130	640	2.3	4.0	400×400	880×660×800
50		185	900	2.2		400×400	910×660×860
80		250	1240	1.7		400×400	970×660×950
100		270	1415	1.7		400×400	980×660×975
125		320	1665	1.5		550×550	1030×660×985
160		365	1915	1.5		550×550	1070×660×1000
200		420	2275	1.3		550×550	1130×660×1055
250		490	2485	1.3		550×550	1150×660×1060
315		600	3125	1.1		660×660	1200×770×960
400		665	3590	1.1		660×660	1190×770×980
500		790	4390	1.1		660×660	1220×770×1000
630		910	5290	0.9		820×850	1370×960×1005
630		885	5365	0.9	6.0	820×850	1370×960×1005
800		1035	6265	0.9		820×900	1440×960×1030
1000		1205	7315	0.9		820×820	1500×960×1045
1250		1420	8720	0.9		820×820	1550×960×1095
1600		1665	10555	0.9		820×1070	1620×1200×1195
2000		2075	13005	0.7		820×1070	1730×1200×1390
2500		2450	15445	0.7		1070×1070	1780×1200×1430

SCB18 SERIES EPOXY RESIN CAST DRY TYPE TRANSFORMER

The main technical parameters

Technical parameters of epoxy resin cast dry type transformer

Rated capacity (kVA)	Connection group label	No-load loss(W)	Load loss Class F (W)	No-load current (%)	Short circuit impedance (%)	Mounting dimensions (mm)	Overall dimensions (mm) LXWXH
30	Yyn0 or Dyn11	105	640	2.3	4.0	400×400	880×660×800
50		155	900	2.2		400×400	910×660×860
80		210	1240	1.7		400×400	970×660×950
100		230	1415	1.7		400×400	980×660×975
125		270	1665	1.5		550×550	1030×660×985
160		310	1915	1.5		550×550	1070×660×1000
200		360	2275	1.3		550×550	1130×660×1055
250		415	2485	1.3		550×550	1150×660×1060
315		510	3125	1.1		660×660	1200×770×960
400		570	3590	1.1		660×660	1190×770×980
500		670	4390	1.1		660×660	1220×770×1000
630		775	5290	0.9		820×850	1370×960×1005
630		750	5365	0.9	6.0	820×850	1370×960×1005
800		875	6265	0.9		820×900	1440×960×1030
1000		1020	7315	0.9		820×820	1500×960×1045
1250		1205	8720	0.9		820×820	1550×960×1095
1600		1415	10555	0.9		820×1070	1620×1200×1195
2000		1760	13005	0.7		820×1070	1730×1200×1390
2500		2080	15445	0.7		1070×1070	1780×1200×1430

SCBH15 SERIES NON-METALLIC DRY-TYPE TRANSFORMER

Product overview

Amorphous alloy is an advanced old acute cooling technology, iron, cobalt, boron, silicon and other liquid melt injection into a high speed chassis and sharp cooling, forming 0.02mm0.04mm thin band, which has excellent soft viscosity performance, corrosion resistance, wear resistance and high resistance and other characteristics. The amorphous alloy core and cold rolled grain tend to silicon steel shee thave the following advantages:1. Amorphous alloy material has no crystal structure, and it is an isotropic softmagnetic material with low magnetization power.2. There is no structural defects that hinder the movement of the magnetic domain wall and the hysteresis loss is smaller than that of the silicon steel sheet.3. The resistivity is very high, which is 3-6 times that of silicon steel sheet. its eddy current loss is greatly reduced, and the unit eddy current loss is only 20%~30% of that of siliconsteel sheet. SCBH15 Series amorphous alloy dry-type transformer is a new type of low-lossand energy-saving distribution transformer. This productcombines the technical advantages of the amorphous alloy transformer and thetraditional epoxy resin cast dry type transformer, and adopts a new structural form so thatit has the outstanding characteristics of low loss, especially the no-loadloss, which is 70% lower than the conventional 10 series dry type transformer. The productalso has the characteristics of compact structure, beautiful shape, lownoise, low temperature rise, strong overload capacity, stable electrical performanceconvenient maintenance and so on

Service condttion

1. The altitude is not 1000m (when more than 1000m).

2. Ambient temperature: maximum temperature + 40℃, hottest monthly average temperature + 30℃; lowest temperature-25℃,hottest annual average temperature + 20℃

3. waveform of power supply voltage is similar to sine wave; three-phase power supply voltage is roughly symmetrical

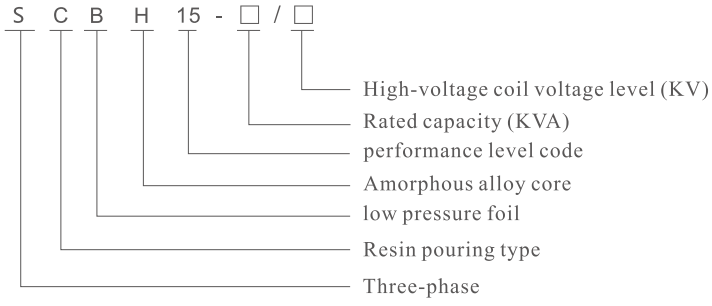
4. installed in the household, the use of the environment without obvious pollution.

SCBH15 SERIES NON-METALLIC DRY-TYPE TRANSFORMER

Product characteristics

SCBH15 Series amorphous alloy dry transformer has low no-load loss, no oil, flame retardant since extinguishing, moistureresistance and maintenance free advantages, now all places of ordinary dry transformer are suitable for amorphous alloytrans former (including airport, station, city subway, high-rise buildings and power plants, etc.), especially in the flammableexplosive and power shortage is more suitable. The specific characteristics are:1, low consumption and energy saving: using isotropic soft magnetic conductive materials, small magnetization power,high resistivity, low eddy current loss. The core no-load loss and no-load current made of non-quality alloy materials arevery low, only 1 / 3 of the silicon steel sheet. The no-load loss of the transformer is reduced by 75% compared with thespecified value of GB / T10228. Can greatly reduce the operation cost, the energy-saving effect is remarkable.2. Strong corrosion resistance: the amorphous alloy core is fully packaged through resin and high temperature resistantsilicone gel, effectively prevent corrosion and amorphous alloy debris off, so as to effectively protect the core and coil.3. Low noise. in order to reduce the operating noise of the product, reasonable working maqnetic density is selected in theproduct design, the core and coil structure are improved in the product processing, and special noise reduction materialsare adopted, etc. The product noise is far lower than the reguirements of the national standard J8 /T10088.4. Strong short circuit resistance, the product adopts three-phase three-column structure around the core with compactand reasonable structure5, low temperature rise, long service life: the product low temperature rise, strong heat dissipation capacity, under forcedair cooling conditions can be 150% rated load operation, the performance of the temperature control protection systemcan be optional, to provide reliable quarantee for the safe operation of the transformer.

Model Meaning



SCBH15 SERIES NON-METALLIC DRY-TYPE TRANSFORMER

Main technical parameters

Technical parameters of 10kV class SCBH15 series amorphous alloy dry-type transformer

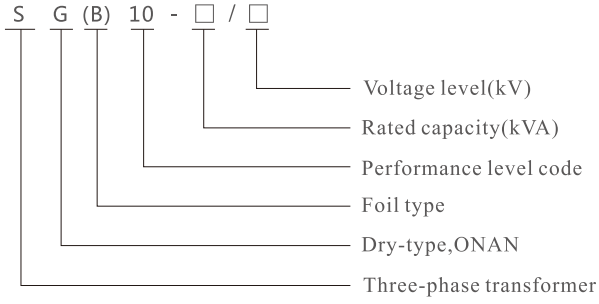
Rated capacity (kVA)	Voltage groupus			Connection group Label	No-load loss(W)	Load loss Class F(W)			No-load current %	Short circuit impedance %
	High voltage (kv)	High voltage	Low pressure			100°C (B)	120°C (F)	145°C (H)		
30	6;6.3; 6.6; 10; 10.5; 119	+2x2.5%; Or±5%;	0.4	Dyn11	70	670	710	760	1.6	4.0
50					90	940	1000	1070	1.4	
80					120	1290	1380	1480	1.3	
100					130	1480	1570	1690	12	
125					150	1740	1850	1980	1.1	
160					170	2000	2130	2280	1.1	
200					200	2370	2530	2710	1.0	
250					230	2590	2760	2960	1.0	
315					280	3270	3470	3730	0.9	
400					310	3750	3990	4280	0.8	
500					360	4590	4880	5230	0.8	
630					420	5530	5880	6290	0.7	
630					410	5610	5960	6400	0.7	6.0
800					480	6550	6960	7460	0.7	
1000					550	7650	8130	8760	0.6	
1250					650	9100	9690	10370	0.6	
1600					760	11050	11730	12580	0.6	8.0
2000					1000	13600	14450	15560	0.5	
2500					1200	16150	17170	18450	0.5	
1600					760	12280	12960	13900	0.6	
2000					1000	15020	15960	17110	0.5	
2500					1200	17760	18890	20290	0.5	

SG(B)10- 100 -2500/10 SERIES H CLASS INSULATED 3-PHASE DRY TYPE TRANSFORMER

Scope of application

This series of products is our company with reference to the German MORA technology independent development of high-performance, high safety, environmental protection type dry transformer, it is suitable for high fire requirements, large load fluctuations and dirty wet harsh environment. Such as: airports, power plants, metallurgical operations, hospitals, high-rise buildings, shopping centers, densely populated areas and petrochemical, nuclear power plants, nuclear submarines and other special environment.

Model Meaning



Executive standard

1,GB1094.11-2007 dry power transformer.
2,GB/T10228-2015 dry type power transformer technical parameters and requirements.
3,GB/T17211-1998 dry power transformer load guide.
4,GB10237-1998 power transformer insulation level and insulation test.
5,GB4028-1993 shell protection grade (IP code).
6,JB/T10008-19986~220kVtransformer sound level.
7,JB/T56009-1998 dry power transformer product quality grade.

Performance characteristics

1, good heat dissipation, long heat life, strong load capacity, no forced air cooling under long-term load, IP45 conditions, can run at full load for a long time.
2, extremely high safety and flame retardant performance, no smoke is produced at 800°C high temperature for a long time burning.
3, strong thermal shock resistance (can immediately add full load at -50 °C).
4, 100% waterproof sealing, excellent hydrophobicity, moisture resistance.
5, the unique coil structure and strong field calculation, so that the product is almost no release.
6, low loss, energy-saving effect is significant, compared with SC9 series dry transformer no-load loss decreased by an average of 10%, load loss decreased by 5%.
7, after the life period can easily separate the insulation material and copper wire recycling, no pollution to the environment.

SG(B)10- 100 -2500/10 SERIES H CLASS INSULATED THREE PHASE DRY TYPE TRANSFORMERS

Structural characteristics

Technical parameters of epoxy resin cast dry type transformer (NewNX2)

1, unique porcelain insulation structure, using MORA company insulation cylinder and high-frequency ceramic pad block, never deformed.

2. The high and low coils are first made of NOMEX insulation material, and repeatedly impregnated with specially formulated H-class insulation by VPI vacuum pressure equipment. After baking for many times, the coils are sealed with external high-strength insulation material and cured at high temperature. The high voltage coil adopts the continuous structure with high mechanical strength and good heat dissipation conditions.

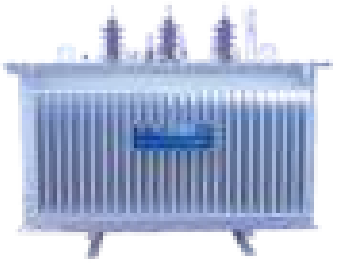
3, The iron core is made of imported high quality silicon steel sheet with high magnetic permeability. The stepping type 45° full incline structure is adopted. The winding and iron core are flexibly fixed, so that the transformer has low no-load loss and noise. The surface of the iron core is treated by a special process. The iron core is moderately clamped by the pull screw, the upper and lower clamps are connected by the pull plate and the base, the winding is fixed as one, the winding is fixed by the elastic pad, the buffer structure can reduce the vibration degree of the winding and reduce the noise.

4, The lead terminal is fixed in the upper part of the winding, the tap is in the middle of the winding, and the low voltage wire terminal is a plate conductive bar and adopts cold pressure welding.

The main technical parameters

SG(B)10-315-2500/10 series H class insulated three phase dry type power transformer technical parameters

Rated capacity (kVA)	Voltage Combination				No-load Loss (W)	Load Loss (W)	No-load Current (%)	Short circuit Impedance (%)	Weight (kg)	Gauge AxB (mm)	Outer shape inches (mm)LxW×H	Outer dimensions with enclosure (mm)LxW×H
	High voltage (kV)	Tapping	Low voltage (kV)	Con-necting group Label								
100	6; 6.3; 6.6; 10; 10.5; 11;	±5% or ±2×2.5%;	0.4	Yyn0 or Dyn11	480	1880			700	660×400	980×500×920	1340×900×1150
160					560	2700			750	660×400	1020×500×960	1400×900×1200
200					620	3100			880	660×400	1050×500×1150	1450×900×1400
250					760	3850	2.0	4	1050	660×400	1090×500×1310	1450×900×1550
315					880	4600			1380	660×660	1240×770×1355	1600×1100×1600
400					1040	5400	1.8		1750	820×820	1310×960×1390	1700×1100×1650
500					1200	6600			1880	820×820	1370×630×1400	1750×1100×1700
630					1340	8050	1.4		1950	820×820	1400×960×1445	1800×1250×1750
800					1690	9500			2200	820×820	1470×960×1495	1850×1250×1800
1000					1980	11400			2490	820×820	1510×960×1505	1900×1250×1800
1250					2380	12500	1.2	6	3050	1070×1070	1620×1255×1585	2000×1300×1850
1600					2730	14900			3690	1070×1070	1660×1588×1675	2050×1300×2000
2000					3320	17500	1.0		4400	1070×1070	1730×1255×1840	2100×1350×2150
2500					4000	20300			4940	1070×1070	1780×1288×1930	2150×1350×2200



S11, S11-M SERIES LOW LOSS AND ENERGY SAVING DISTRIBUTION TRANSFORMER

Scope of application

S11-M series oil-immersed transformer can be widely used in high-rise buildings, commercial centers, subways, airports, stations, industrial and mining enterprises, drilling platforms, oil platforms, especially suitable for flammable, explosive and other fire protection requirements and harsh environment places. It can also be used in residential areas, commercial streets, industrial and mining enterprises and rural power and lighting.

Structural features

S11-M series oil-immersed transformer adopts high quality grain orientation cold rolled silicon steel sheet iron core, all inclined non-hole binding structure, the iron core is multi-level step shape, three joints or five joints, low air loss, low noise; Coil: the use of high quality QQ lacquer coated round copper wire, oxygen free copper rod drawn flat copper money or copper knot wound, its form has cylinder type, continuous type, new screw type, split type, etc., with enough electrical strength, mechanical strength and heat dissipation capacity. Fuel tank: The use of high quality steel plate welded, elliptic, rectangular and other structures, cooling elements using chip radiator, expansion heat dissipator or corrugated oil tank, the tank in the factory for reliable sealing test, the internal and external surface after pickling, phosphating treatment, three bottom side paint coating, both corrosion resistance and beautiful.

The main technical parameter number

20kV class S11 series oil immersed distribution transformer without excitation regulation technical parameters

Rated capacity (kVA)	Voltage combination				No-load loss(W)	Load Loss (W)	No-load current (%)	Short circuit impedance(%)	Gauge AxB (mm)
	High voltage (kV)	High voltage tap range	Low voltage (kV)	Connection group label					
30	20	±5%; or ±2×2.5%	0.4	Yyn0 or Dyn11	100	690/660	2.1	5.5	450×450
50					130	1010/960	2.0		450×450
63					150	1200/1150	1.9		450×450
80					180	1440/1370	1.8		450×450
100					200	1730/1650	1.6		450×450
125					240	2080/1980	1.5		450×450
160					290	2540/2420	1.4		550×550
200					340	3000/2860	1.3		550×550
250					400	3520/3350	1.2		550×550
315					480	4210/4010	1.1		550×550
400					570	4970/4730	1.0		550×550
500					680	5940/5660	1.0		550×550
630					810	6820	0.9		820×820
800					980	8250	0.8	6	820×820
1000					1150	11330	0.7		820×820
1250					1380	13200	0.7		820×820
1600					1660	15950	0.6		820×820
2000					1950	19140	0.6		1070×1070
2500					2340	22220	0.5		1070×1070

S11, S11-M SERIES LOW LOSS AND ENERGY SAVING DISTRIBUTION TRANSFORMER

35kV class SZ11 series no excitation voltage regulation power transformer technical parameters

35kV class SZ11 series no excitation voltage regulation power transformer technical parameters

Rated capacity (kVA)	Voltage combination				No-load Loss (W)	load Loss (W)	No-load Current (%)	Short circuit Impedance(%)	Gauge AxB (mm)	Weight (kg)		
	High voltage (kv)	High voltage tap range	Low voltage (kv)	Connection group label						Body weight	Insulation oil weight	Total weight
2000	35; 38.5	±3×2.5	6.3; 6.6; 10.5; 11;	Yd11	2300	19200	0.5	6.5	1070×1070	2800	1900	6800
2500					2720	20600	0.5		1070×1070	3350	2100	7500
3150					3230	24700	0.5	7.0	1070×1070	3720	2250	8580
4000					3870	29100	0.5		1070×1070	4375	2900	10345
5000					4.64	34200	0.5		1475×1475	4900	3100	11200
6300				Ynd11	5630	36700	0.5	7.5	1475×1475	6410	3300	12280
8000					7870	40600	0.4		1475×1475	8390	3610	17150
10000					9280	48000	0.4		1475×1475	9150	4720	19740
12500					10970	56800	0.35	8.0	1475×1475	11340	5010	21400
16000					13100	70300	0.35		2040×2040	13410	5200	25630
20000					15500	82700	0.3		2040×2040	15740	5960	28680
25000					18300	97800	0.3	10	2040×2040	17055	6620	33500
31500					21800	116000	0.3		2040×2040	21800	9400	43020

Technical parameters of 35kV class S11 non-exciting voltage regulation distribution transformer

Rated capacity (kVA)	Voltage combination				No-load Loss (W)	Load Loss (w)	No-load Electric current (%)	Short circuit Impedance (%)	Gauge A×B (mm)	Weight (kg)		
	High voltage (kv)	high voltage tap Range	Low voltage (kv)	Connection group label						Body weight	Insulation oil weight	Total weight
50	35; 38.5	±2 ×2.5%;	0.4	Yyn0 or Dyn11	160	1200/1140	1.3	6.5	450x450	233	263	827
100					230	2010/1910	1.1		450x450	348	310	827
125					270	2370/2260	1.1		450x450	406	340	1037
160					280	2820/2680	1.0		450x450	496	350	1110
200					340	3320/3160	1.0		450x450	557	370	1200
250					400	3950/3760	0.95		550x550	646	400	1360
315					480	4750/4530	0.95		550x550	771	450	1620
400					580	5740/5470	0.85		550x550	890	500	1850
500					680	6910/6580	0.85		550x550	1070	560	2140
630					830	7860	0.65		550x550	1245	610	2420
800					980	9400	0.65		820x820	1450	670	2710
1000					1150	11500	0.65		820x820	1665	760	3280
1250					1400	13900	0.6		820x820	1910	810	3560
1600					1690	16600	0.6		820x820	2187	890	4060
2000					1990	19700	0.55		1070x1070	2720	1059	5161
2500					2360	23200	0.55		1070x1070	3236	1143	5912

S11, S11-M SERIES LOW LOSS AND ENERGY SAVING DISTRIBUTION TRANSFORMER

10kV class S11 no excitation voltage regulation distribution transformer technical parameters

Rated capacity (kVA)	Voltage combination				No-load loss (W)	Load Loss (W)	No-load Current (%)	Short circuit Impedance(%)	Gauge A×B (mm)	Weight (kg)		
	High voltage (kv)	high voltage tap Range	Low voltage (kv)	Connection group label						Active part weight	Insulated oil weight	Total Weight
30	6 6.3 10 10.5 11	±2 ×2.5%; or ±5%;	0.4	Yyn0 or Dyn11	100	630/600	1.5	4.0	400×400	135	65	253
50					130	910/870	1.3		400×400	210	75	335
63					150	1090/1040	1.2		400×400	235	90	435
80					180	1310/1250	1.2		400×450	270	95	450
100					200	1580/1500	1.1		400×450	338	101	515
125					240	1890/1800	1.1		400×450	375	115	600
160					280	2310/2200	1.0		550×550	465	125	695
200					340	2730/2600	1.0		550×550	538	152	840
250					400	3200/3050	0.9		550×550	610	171	990
315					480	3830/3650	0.9		550×550	733	189	1116
400					570	4520/4300	0.8		550×550	862	220	1357
500					680	5410/5150	0.8		550×550	1078	269	1596
630					810	6200	0.6	4.5	660×660	1140	280	1690
800					980	7500	0.6		820×820	1260	310	2050
1000					1150	10300	0.6		820×820	1410	375	2565
1250					1360	12000	0.5		820×820	1705	490	2950
1600					1640	14500	0.5		820×820	2031	614	3569
2000					1940	18300	0.4	5.0	820×820	2361	790	4108
2500					2290	21200	0.4		1070×1070	2837	860	4960

SH(B)15 SERIES AMORPHOUS ALLOY DISTRIBUTION TRANSFORMERS

Product overview

SH(B)15 series products comply with the national standard GB1094 "Power transformer" and JB/T10318-2002 "Oil immersed amorphous alloy iron core distribution transformer technical parameters and requirements" Amorphous alloy iron core transformer is a new type of environmental protection and energy saving products, the iron core is coiled with amorphous alloy strip. The no-load loss is more than 75% lower than the current S11 type distribution transformer.

Structural features

- Amorphous alloy is a new type of strip, its material does not have a crystal structure, small magnetizing power, high electronic rate, so the eddy current loss is small, with this material as the core can produce a new type of energy-saving transformer, is the ideal product for the replacement of the distribution network.
- The core is a coil core structure, three-phase five-column type, and the cross-section is rectangular.
- The coil is rectangular, the high voltage is wound with acetal enamelled wire, and the low voltage is made of oxygen-free copper wire or copper foil coil, which increases the transformer's ability to withstand short circuit. The transformer connection group adopts Dyn11 to avoid the influence of high order harmonics and has strong resistance to unbalanced load. Significantly improve the quality of power supply.

SH(B)15 SERIES AMORPHOUS ALLOY DISTRIBUTION TRANSFORMERS

The Main Technical Parameter Number

10kV grade SH(B)15 series amorphous alloy no excitation voltage regulation distribution transformer technical parameters

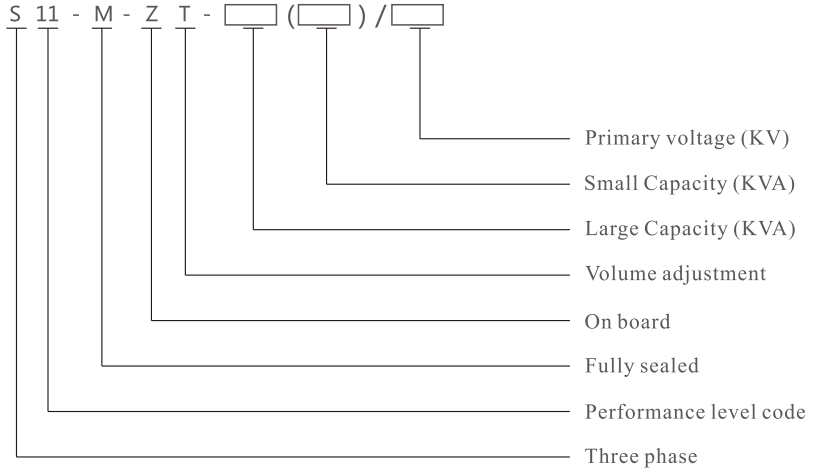
Rated capacity (kVA)	Voltage combination				No-load loss (W)	Load Loss (W)	No-load Current (%)	Short circuit Impedance (%)	Weight (kg)			Gauge AxB (mm)	Overall dimensions (mm) LxWxH
	High voltage (kv)	high voltage tap Range	Low voltage (kv)	Connection group label					Active part weight	Insulated oil weight	Total Weight		
30	6 6.3 10 10.5 11	±2 ×2.5%; or ±5%;	0.4	Dyn11	33	600	1.7	4.0	225	100	420	550×550	986×860×810
50					43	870	1.3		305	120	535	550×550	1016×810×840
63					50	1040	1.2		350	130	595	550×550	1056×820×865
80					60	1250	1.1		405	135	660	550×550	1044×865×860
100					75	1500	1.0		430	155	770	550×550	1110×880×815
125					85	1800	0.9		500	165	860	550×550	1146×880×950
160					100	2200	0.7		595	185	990	550×550	1206×880×985
200					120	2600	0.7		675	205	1110	660×660	1266×895×1015
250	6 6.3 10 10.5 11	±2 ×2.5%; or ±5%;	0.4	Dyn11	140	3050	0.7	4.0	810	220	1275	660×660	1310×950×1060
315					170	3650	0.5		945	245	1475	660×660	1365×835×1105
400					200	4300	0.5		1195	280	1835	660×820	1310×1030×1195
500					240	5150	0.5		1375	335	2130	660×820	1385×1125×1195
630					320	6200	0.3		1610	470	2605	660×820	1505×1305×1295
800					380	7500	0.3		1910	575	3090	820×1070	1900×1175×1395
1000					450	10300	0.3	4.5	2130	670	3570	820×1070	2115×1275×1420
1250					530	12000	0.3		2510	710	4140	820×1070	2140×1490×1440
1600					630	14500	0.3		3045	820	4950	820×1070	2305×1560×1530

S13-M.ZT SERIES INTELLIGENT ON-LOAD CAPACITOR TRANSFORMER

Product overview

Intelligent on-load regulating transformer has two capacity positions, which can automatically adjust the capacity operation according to the change of load without power failure. When the load is light or close to no load, the transformer is adjusted from large capacity to small capacity operation, which not only greatly reduces the no-load loss, but also overcomes the trouble of manual operation of power failure without load regulating capacity, and really achieves the purpose of energy saving and intelligence. The product is especially suitable for seasonal load change amplitude of the rural power grid, day and night load change of significant residential areas, street light change, urban business district, part-time industrial area and oil field pumping unit distribution change, but also suitable for load change larger 35kV power transformer. The intelligent on-load regulating transformer developed by our company has a number of patents, which is mainly composed of the transformer, the on-load regulating switch and the control box installed with the on-load regulating controller. Its data storage, remote communication, remote control, remote regulation, telemetry, intelligent networking, reactive power compensation control, anti-theft and other functions, are unmatched by traditional coil core, amorphous transformer and other energy-saving products.

The mode and meaning



Performance parameters

Table 110kVS11-M-ZT series intelligent on-load capacitor transformer technical parameters:

Model	Voltage combination (kV)	Coupling group	No-load loss (W)	Load loss (W)	Short circuit impedance (%)	No-load current (%)
S11-M-ZT-160(50)	10/0.4>	Dyn11 Yyn0	200(100)	2310(870)	4.0	0.8 (1.6)
S11-M-ZT-200(63)			240(110)	2730(1040)	4.0	0.7 (1.5)
S11-M-ZT-250(80)			400(180)	3200(1250)	4.0	0.7 (1.4)
S11-M-ZT-315(100)			480(200)	3830(1500)	4.0	0.7 (1.4)
S11-M-ZT-400(125)			570(240)	4520(1800)	4.0	0.6 (1.3)
S11-M-ZT-500(160)			680(280)	5410(2200)	4.0	0.6 (1.2)
S11-M-ZT-630(200)			810(340)	6200(2600)	4.5	0.5 (1.1)

S13-M.ZT SERIES INTELLIGENT ON-LOAD CAPACITOR TRANSFORMER

Energy efficiency analysis

Annual operating costs and investment recovery period:
Cy=[8600x(P0+0.05xIoxSN/100)+2200x(Pk+0.05xUKxSN/100)]x0.5 In the above formula, Cy is the annual operating cost of the transformer, yuan;
Cy=[8600x(P0+0.05xIoxSN/100)+2200x(Pk+0.05xUKxSN/100)]x0.5
P0 is no-load loss, kw;
Pk is the load loss, kw;
SN is the rated capacity, kVA;
Uk is the percentage of short-circuit impedance, %;
Io is the percentage of no-load current, %;
0.5 is the electricity price, yuan /(kWh);8600 and 2200 are variable voltage respectively, and Q-load, equivalent full load (load factor 0.5) hours are based on the above formula and related performance indicators.The annual operating cost of SII-M-ZT series intelligent distribution transformer with capacity and S1 type ordinary three-phase oil-immersed distribution transformer is calculated. It is assumed that the on-load capacitor transformer operates in high capacity mode for 3 months of the year.according to the distribution transformer corresponding technical parameters calculated, the specific data are shown in Table 3.
The on-load capacitor-regulating transformer ADAPTS to the development direction of energy saving, intelligence, high efficiency and stable power supply quality in the field of power transformation. It can automatically change the rated output capacity of the terminal distribution transformer by tracking the load change, and ensure the power supply in a timely and appropriate manner, thus greatly reducing the no-load loss of the transformer by about 40%~50%, which can improve the power factor of the grid.Reduce the reactive power component in the distribution network, reduce the network loss, reduce the capacity of power capacitance, open up a new way for the development of energy saving distribution network, and bring good economic benefits to the society.

Table 2Comparison of annual operating costs between SII-M-ZT series intelligent capacitive distribution transformers and SII type distribution transformers

Capacity (kVA)	Annual operating cost of distribution transformer with on-load capacity regulation (Yuan)	Annual operating cost of ordinary distribution transformer (Yuan)	Annual operating cost reduced Amount (Yuan)	Annual operating cost reduction (%)
160(50)	2289	4647	2358	51
200(63)	2710	5550	2840	51
250(80)	3227	6543	3316	51
315(100)	3816	7918	4102	52
400(125)	4588	9531	4943	52
500(160)	5497	11265	5768	51
630(200)	6608	13352	6744	51

S13-M.ZT SERIES INTELLIGENT ON-LOAD CAPACITOR TRANSFORMER

Appearance drawing and mounting dimensions

10kV intelligent on-load adjustable capacity distribution transformer outline

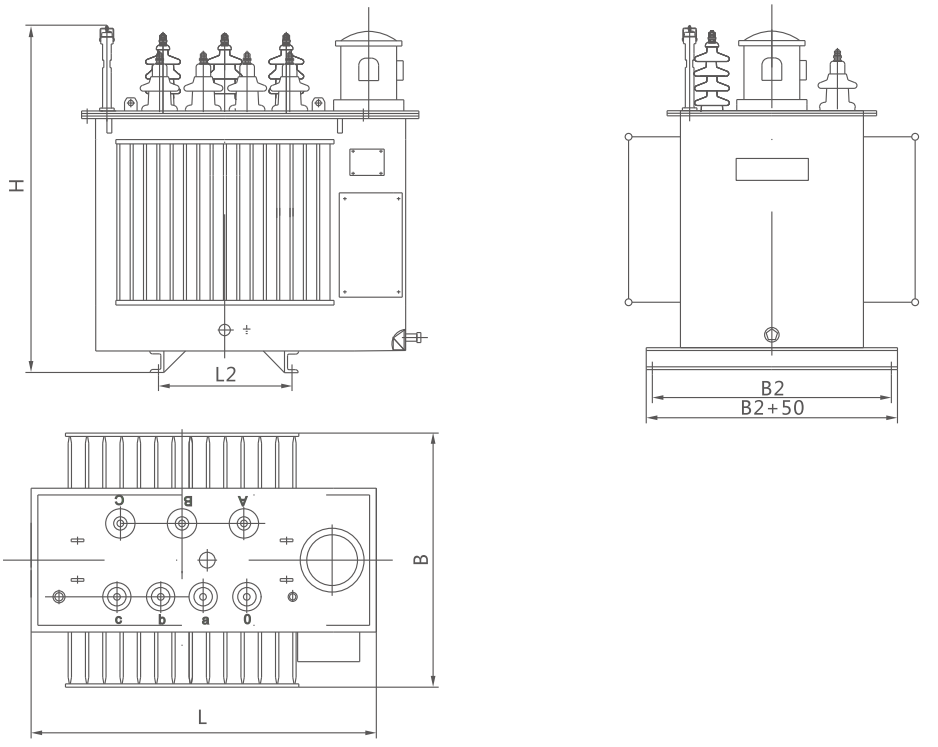


Table 3 SII-M-ZT series intelligent volume regulating distribution transformer outline installation size and weight table

Capacity (KVA)	Overall dimensions (mm)			Mounting dimensions (mm)		Weight (kg)
	Length L	Wide B	High H	L2	B2	
160(50)	1380	990	1230	820	820	1100
200(63)	1400	1070	1230	820	820	1220
250(80)	1440	1120	1250	820	820	1370
315(100)	1480	1170	1350	820	820	1620
400(125)	1620	1190	1330	820	820	1910
500(160)	1710	1240	1350	820	820	2200
630(200)	1850	1270	1450	820	820	2660

S11-M · RL N TYPE THREE-DIMENSIONAL COIL IRON CORE DISTRIBUTION TRANSFORMER

Product overview

S11 type three-dimensional coil iron core distribution transformer capacity range 30-2500KVA. The iron core is a three-phase three-column coil structure with internal and external frame. High degree of mechanization, lamination coefficient is large. The high and low pressure coils are wound continuously on the core column, the concentricity is good, and the coils are tight. The main technical and economic indicators have reached the international advanced level of the same kind of products.

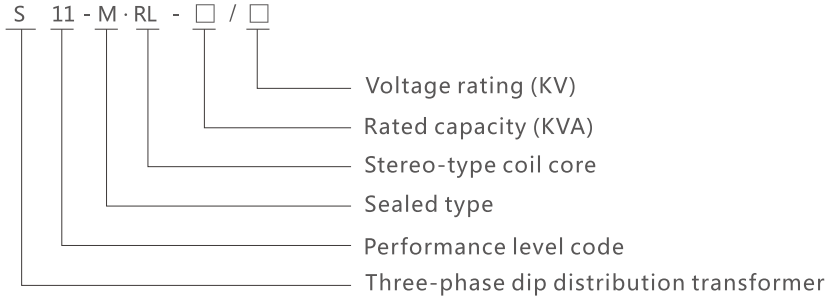
The S11 series coil core distribution transformer has low loss, and the load loss is the same as the new S11 stack core distribution transformer. Compared with GB/ T6415-20081, its no-load loss is reduced by an average of 20%. The main material consumption is less and the weight is light. The no-load current is small, and the magnetic flux is completely along the lattice arrangement direction of the cold-rolled silicon steel sheet. Low noise, compared with JB/T10088-2004 standard value, about 3-5dB lower. Strong short-circuit resistance and high reliability. The clamp mainly plays the role of tightening the winding, and the iron yoke insulation and trapezoidal pad are integrated into one, so that the body is under uniform pressure.

Iron core: 30Q120 cold rolled silicon steel sheet. The inner and outer frame of the three-phase column is coil structure, and the core column is a multi-level stepped cylindrical cross-section. The core is annealed by true air after winding. Pull screw body of upper and lower clamp. The iron core surface is coated with epoxy resin, guaranteed

The iron core is not deformed or rusted.

Winding and body: low voltage winding for 1-6 wires and wound four layers (or double) cylinder type, using paper covered flat copper wire. The high voltage winding is multi-layer cylinder type, the impact distribution is good, and the high strength acetal enamelled round copper wire is used. The coil is wound directly on a rotating die consisting of a gear plate and a soft paper tube which is stuck on the iron core post. The yoke insulation and trapezoidal pad are integrated into one, so that the body is evenly compressed. A new type of hanging plate positioning structure, longitudinal and transverse positioning, to ensure that the body is stable and not displaced. Oil tank: mainly corrugated oil tank. It can also be designed as a rectangular chip radiator tank.

Model meaning



S11-M.ZT SERIES INTELLIGENT ON-LOAD CAPACITOR TRANSFORMER

Appearance drawing and mounting dimensions

10kV intelligent on-load adjustable capacity distribution transformer outline

Capacity (KVA)	Voltage combination				No-load loss (W)	Load Loss (W)	No-load Current (%)	Short circuit Impedance (%)	Weight (kg)			Gauge A x B (mm)	Overall dimensions (mm) LxW x H
	High voltage (kv)	high voltage tap Range	Low voltage (kv)	Connection group label					Active part weight	Insulation oil weight	All up weight		
30	11; 10.5; 10; 6.6; 6.3; 6;	±5%; or ±2 ×2.5%;	0.4	Dyn11; Yzn11; Yyn0;	100	630/600	0.33	4.0	167	107	358	380×550	1010×667×1159
50					130	910/870	0.30		222	113	423	380×550	1025×683×1224
80					180	1310/1250	0.27		278	153	525	380×550	1114×727×1314
100					200	1580/1500	0.26		278	149	554	380×550	1148×995×1314
160					280	2310/2200	0.24		439	168	746	400×660	1045×905×1376
200					340	2730/2600	0.23		509	197	856	400×660	1091×944×1394
250					400	3200/3050	0.22		591	228	986	400×660	1114×965×1397
315					480	3830/3650	0.21		679	252	1124	550×820	1190×1031×1422
400					570	4520/4300	0.21		818	303	1340	550×820	1225×1060×1477
500					680	5140/5100	0.20		964	375	1618	550×820	1394×1207×1562
630					810	6200	0.20		1128	417	1939	550×820	1467×1270×1594
800					980	7500	0.19		1424	526	2417	550×820	1570×1360×1636
1000					1150	10300	0.18		1660	645	2955	550×1070	1731×1510×1656
1250					1360	12000	0.17	4.5	1802	630	3135	550×1070	1761×1525×1768
1600					1640	14500	0.16		2255	781	3784	550×1070	1740×1510×1928
2000					2250	18500	0.15		3166	1239	5637	660×1300	1836×1699×1863
2500					2400	24000	0.15		3158	1541	6089	660×1300	1856×1762×2088

S13-M · RL D THREE-DIMENSIONAL COILIRON CORE DISTRIBUTION TRANSFORMER

Product overview

S13 type three-phase coil iron core distribution transformer capacity range 30-2500KVA. The iron core is a three-phase three-column coil structure with internal and external frame. High degree of mechanization, lamination coefficient is large. The high and low pressure coils are wound continuously on the core column, the concentricity is good, and the coils are tight. The main technical and economic indicators have reached the international advanced level of the same kind of products.

The S13 series coil core distribution transformer has low loss, and the load loss is the same as the new S11 stack core distribution transformer. Same as GB/T6415-2008

1, its no-load loss has been reduced by an average of 20%. The main material consumption is less and the weight is light. The no-load current is small, and the magnetic flux is completely along the lattice arrangement direction of the cold-rolled silicon steel sheet. Low noise, compared with JB/T10088-2004 standard value, about 3-5dB lower. Strong short-circuit resistance and high reliability. The clamp mainly plays the role of tightening the winding, and the iron yoke insulation and trapezoidal pad are integrated into one, so that the body is under uniform pressure.

Iron core: 30Q120 cold rolled silicon steel sheet. The inner and outer frame of the three-phase column is coil structure, and the core column is a multi-level stepped cylindrical cross-section. The core is annealed by true air after winding. Pull screw body of upper and lower clamp. The iron core surface is coated with epoxy resin, guaranteed

The iron core is not deformed or rusted.

Winding and body: low voltage winding for 1-6 wires and wound four layers (or double) cylinder type, using paper covered flat copper wire. The high voltage winding is multi-layer cylinder type, the impact distribution is good, and the high strength acetal enamelled round copper wire is used. The coil is wound directly on a rotating die consisting of a gear plate and a soft paper tube which is stuck on the iron core post. The yoke insulation and trapezoidal pad are integrated into one, so that the body is evenly compressed. A new type of hanging plate positioning structure, longitudinal and transverse positioning, to ensure that the body is stable and not displaced.

Oil tank: mainly corrugated oil tank. It can also be designed as a rectangular chip radiator tank.

Model meaning

S 13 - M · RL - □ / □

- Voltage rating (KV)
- Rated capacity (KVA)
- Solid coil iron core
- Sealed
- Performance level code
- Three phase immersed distribution transformer

S13-M ·RL D THREE-DIMENSIONAL COIL IRON CORE DISTRIBUTION TRANSFORMER

The main technical parameters

S13 new energy-saving three-dimensional coil core oil immersed transformer technical parameters

Capacity (KVA)	Voltage combination				No-load loss (W)	Load Loss (W)	No-load Current (%)	Short circuit Impedance (%)	Weight (kg)			Gauge A x B (mm)	Overall dimensions (mm) LxW x H
	High voltage (kv)	high voltage tap Range	Low voltage (kv)	Connection group label					Active part weight	Insulation oil weight	All up weight		
30	11; 10.5; 10; 6.6; 6.3; 6;	±2 ×2.5%; or ±5%;	0.4	Dyn11; Yzn11; Yyn0;	80	630/600	0.30	4.0	178	113	377	380×550	1028×682×1199
50					100	910/870	0.24		236	111	435	380×550	1025×683×1224
80					130	1310/1250	0.22		313	146	553	380×550	1096×722×1314
100					150	1580/1500	0.21		356	148	607	380×550	1096×722×1334
160					200	2310/2200	0.19		484	185	797	400×660	1080×935×1441
200					240	2730/2600	0.18		556	228	937	400×660	1109×960×1444
250					290	3200/3050	0.17		655	263	1091	400×660	1196×1036×1457
315					340	3830/3650	0.16		769	274	1269	550×820	1276×1105×1467
400					410	4520/4300	0.16		896	323	1437	550×820	1306×1131×1542
500					480	5140/5100	0.16		1044	433	1872	550×820	1483×1284×1592
630					570	6200	0.15	4.5	1352	414	2085	550×820	1395×1210×1649
800					700	7500	0.15		1613	496	2481	550×820	1526×1321×1711
1000					830	10300	0.14		1703	656	3000	550×1070	1717×1487×1726
1250					970	12000	0.13		2065	702	3449	550×1070	1711×1482×1829
1600					1170	14500	0.12		2592	1045	4450	550×1070	1880×1628×1938

10KV CLASS S13 NON-EXCITATION REGULATION DISTRIBUTION TRANSFORMER

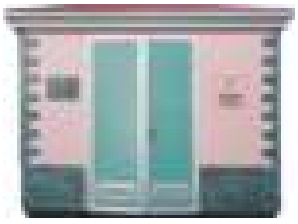
The main technical parameters

Capacity (KVA)	Voltage combination			Connection group label	No-load loss (W)	Load Loss (W)	No-load Current (%)	Short circuit Impedance (%)	Weight (kg)			Gauge A x B (mm)	Overall dimensions (mm) LxW x H
	High voltage (kv)	high voltage tap Range	Low voltage (kv)						Active part weight	Insulation oil weight	All up weight		
30	6; 6.3; 10; 10.5; 11;	±2 ×2.5%; or ±5%;	0.4	Yyn0 or Dyn11	80	630	2.1	4.0	150	75	320	400×400	730×480×950
50					100	910	2.0		210	90	370	400×400	760×510×920
63					110	1090	1.9		255	95	420	400×450	790×530×950
80					130	1310	1.8		280	120	490	400×450	810×580×970
100					150	1580	1.6		360	125	600	400×550	830×760×1160
125					170	1890	1.5		410	135	690	400×550	990×620×1040
160					200	2310	1.4		480	155	815	550×550	1070×680×1100
200					240	2730	1.3		565	170	920	550×650	1170×770×1300
250					290	3200	1.2		665	200	1020	550×650	1230×820×1190
315					340	3830	1.1		750	230	1160	550×650	1295×865×1240
400					410	4520	1.0		880	235	1385	550×750	1385×925×1250
500					480	5410	1.0		1100	260	1670	660×750	1560×1060×1360
630					570	6200	0.9		1255	310	1920	660×750	1615×1105×1350
800					700	7500	0.8		1585	465	2330	820×850	1725×1190×1390
1000					830	10300	0.7		1720	510	2680	820×850	1820×1290×1440
1250					970	12000	0.6	4.5	2075	625	2995	820×850	1860×1290×1540
1600					1170	14500	0.6		2215	640	3610	820×850	1340×1700×1560
2000					1360	18300	0.5	5	2965	805	4570	820×820	1660×1460×1850
2500					1600	21200	0.5		3600	895	5335	1070×1070	1750×1780×1900

BOX- TYPE SUBSTATION

People Electric
Appliance serves for people.

ZBW SERIES COMBINATION TRANSFORMER SUBSTATION



General:

To meet requirement of urban network construction, ZBW series combination substation is designed by our company with its own advantage such as compact, complete unit, reliable and safe, convenient maintenance, artistic appearance and so on. It is applicable for the outdoor administration of power supply such as high building, residential area, stations and wharfs, ports, factory and park.

Feature :

1. The frame of substation is made of steel and angle iron galvanized to have the enough mechanical strength.
2. Cold-rolled steel sheet, stainless steel, aluminum alloy sheet or compound colorful sheet is used for the enclosure.
3. Each cubicle is separated by steel sheet to be different shape inside.
4. The illuminating devices are installed inside L.V.&H.V. cubicles and transformer cubicle for supervision and maintenance.
5. The cover is double-layer to prevent the heat from increasing temperature.
6. Natural ventilation is taken for transformer. When the temperature inside the transformer cubicle is higher than the set temperature, the fan installed on the top will start to work and control the temperature.
7. Sealing devices are put on the turning parts to be moisture-proof.
8. Perfect protection and convenient operation, particularly "five-proof"functions on H.V. side ensures the security of maintenance.
9. The product is good-looking and natural in certain environment

Operation condition:

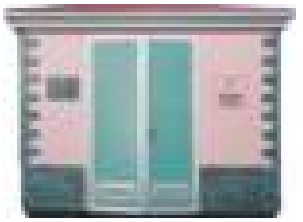
Altitude:<1000m
Ambient temperature:-25℃ —+40℃
Wind speed： <30m/s
Relative humidity: <90%

Type designation:

Z B W □–□ / □

- Design serial No.
- Rated capacity
- Rated Voltage
- Outdoor type
- Substation
- Combination type(Cubicle)

ZBW SERIES COMBINATION TRANSFORMER SUBSTATION



Main technical parameter:

Table 1

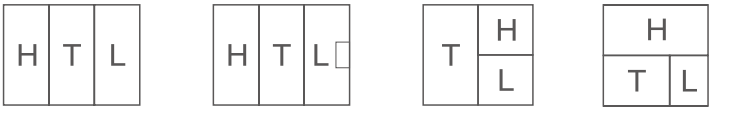
No	Item	Unit	High voltage apparatus	Transformer	Low voltage apparatus
1	Rated voltage Ue	kV	7.2、12	6/0.4、10/0.4	0.4
2	Rated capacity Se	kvA		200~1250	
3	Rated current Le	kvA	200~630		100~3000
4	Rated drop out current	A	switch disconnector 400~630A		15~63
		kA	subject to fuse if the combined appliance is adopted		
5	Rated short time withstand current	kA	20(2S)	200~400kvA	15（1S）
			12.5(4S)	400kvA	30（1S）
6	Rated crest withstand current	kA	31.5、50	200~400kvA	30
				400kvA	63
7	Rated making current	kV	31.5、50		
8	1min power frequency withstand voltage	kV	phase to earth phase to phase42、30	oil—immersed transformer:35/5min	≤300V when 2kV
			across isolating distance 48、34	dry type:28/5 min	300，660V when 2.5kV
9	lightning impulse withstand voltage	kV	phase to earth phase to phase85、75	75	
			phase to earth phase to phase85、75		
10	Noise	dB		oil—immersed transformer:< 55	
				dry type:< 65	
11	Protection class		IP33	IP23	IP33
12	outline dimension	Choose different dimension according to the capacity and type of power transformer			

Plan Layout And Outline Dimension:

Plan layout please see drawing 1—1，1—2，1—3，1—4.

“type includes” 1—1 and 1—2

“type includes” 1—3 and 1—4

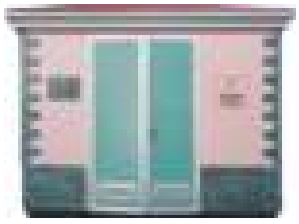


drawing 1—1　drawing 1—2　drawing 1—3　drawing 1—4

H：high voltage cubicle　T—transformer cubicle　L：Low voltage cubicle

Outline Dimension Please See Drawing 2 Drawing 3 And Table 2

ZBW SERIES COMBINATION TRANSFORMER SUBSTATION



Main technical parameters

Type			A	a	B	b	H	The most suitable site
Three phase		100-630kVA	4140	3750	2590	2290	2320	Mine , oil field
		800-1250kvA	5184	4880	2500	2290	2626	Residential area
		50-400kvA	2500	2300	2400	2200	2320	
Single phase		≤50kvA	2500	2300	1260	1060	2215	Power supply for street lamp
		80-100kvA	2500	2300	1840	1640	2215	

Note：above dimension only for your information during design period, the dimension subject to dimension of objective

Ordering Notes :

1. Type of substation
2. Type of transformer
3. H.V/ L.V. wiring mode, type and parameters of chosen components
4. Regarding to enclosure color, if there is no special requirement by customer, it would be dark green.

10KV COMBINED TRANSFORMER (AMERICAN BOX TYPE TRANSFORMER)

Electrical principle

Combination transformer, commonly known as the American box type transformer, has reliable power supply, reasonable structure, rapid installation, flexible, easy operation, small size and other excellent performance, widely used in industrial parks, residential areas, commercial centers, urban roads and high-rise buildings and other places.This kind of products and the current domestic production of European box change is different: American box change is the transformer core, high voltage load switch, protection with fuse and other equipment integrated design, placed in the same tank, so the volume is small.

Model meaning

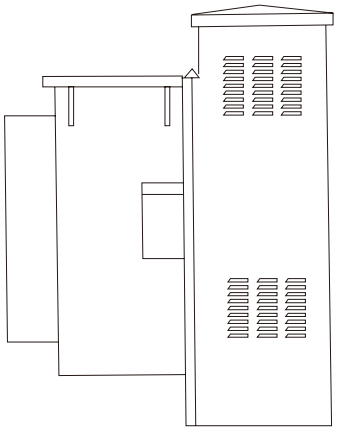
Z □ S □ - □ - □ / 10

- 10 — Voltage (kV)
- □ — Rated capacity (kVA)
- □ — Z-terminal type, H-ring net type
- □ — Transformer performance level code
- S — Three-phase
- □ — G-Integrated box-type, F- split box type
- Z — Combined type

Operation condition

Ambient temperature: maximum +40℃, minimum -30℃
Altitude: ≤1000m
Wind speed: equivalent 34m/s (no more than 700Pa)
Humidity: The average daily relative humidity is no more than 95%
The average monthly relative humidity is no more than 95%
Shockproof: horizontal acceleration is not more than 0.4m/s², vertical acceleration is not more than 0.15m/s2 Installation site inclination: not more than 30°
Installation environment: no explosive, corrosive gas, installation site without violent shock, order this product beyond the above conditions, you can negotiate with the company.

10KV UNDERGROUND COMBINED TRANSFORMER



Product features

Small size, compact structure, only about one-third of the same capacity European box type transformer

Fully sealed, fully insulated structure, no need for insulation distance, can ensure personal safety.

It can be used for ring network and terminal. The conversion is very convenient and the reliability of power supply is improved.

Transformer performance is excellent: low loss, low noise, low temperature rise, overload capacity, short circuit resistance, strong impact resistance.

The cable connector can operate 200A load current, and can be operated as a load switch in emergency situations, and has the characteristics of isolation switch.

The use of double fuse protection, reduce the operating cost, the plug-in fuse fuse is double sensitive fuse (temperature, current).

Select high burning point oil (R-TEMP oil, burning point up to 312℃), can be placed in the building to eliminate fire hazards.

The use of Dyn11 connection method and three phase five pile structure, the advantages are high voltage quality, neutral point does not drift, low noise, good lightning protection.

Operation condition

Serial number	Items		Units	Technical parameters
1	Rated voltage	Primary side	kV	6~10
		Secondary side	kV	0.4
2	Rated operating voltage		kV	12
3	Rated frequency		Hz	50
4	Rated capacity		kVA	100~1250
5	1 minute power frequency withstand voltage		kV	35
6	Lightning impulse withstand voltage		kV	95
7	2 seconds short withstand current		kV	12
8	High voltage backup current limiting fuse breaking capacity		kV	50
9	No load regulation			(6~10)±2×2.5%
10	Ambient temperature		℃	-20~+40
11	temperature rise limit		K	55

10KV POLE MOUNTED INTELLIGENT COMBINED TRANSFORMER

Product overview

The pole mounted intelligent combined transformer is a new generation of intelligent distribution products independently developed by People Electric Group and with independent intellectual property rights. The product is composed of low loss and energy saving transformer, intelligent column transformer control cabinet, metering box and monitoring equipment. The product is installed on the outdoor transformer rack, which is a new replacement of the traditional transformer and JP cabinet.

The promotion and application of the transformer can simplify the installation process of the equipment, save the installation time and space of the equipment, improve the safety performance of the equipment, reduce the operation energy consumption of the equipment and save the investment of the equipment. At the same time, it has the function of effectively preventing the theft of the equipment and the behavior of stealing electricity. It has the advantages of convenient installation, operation and maintenance, intelligent protection and monitoring, intelligent reactive power compensation, etc. The product performance has reached the domestic advanced level.

Main technical parameters

Serial number	Items	Units	Technical parameters
1	Primary voltage rating	kV	6~10
2	Secondary voltage rating	kV	0.4
3	Maximum operating voltage	kV	12
4	Rated frequency	Hz	50
5	Rated capacity	kVA	100~400
6	1 minute power frequency withstand voltage	kV	35
7	Lightning shock withstand voltage	kV	75
8	Range of voltage regulation		±2×2.5% or ±5%
9	Short circuit impedance	%	4
10	Connecting Groups		Dyn11 or Yyno
12	In and out mode		Cable or overhead line
13	Outgoing loop	loop	2-3
14	Reactive power compensation capacity		Transformer capacity
15	Method of compensation		Smart compensation
16	One side protection method		Fuse protection
17	One side protection method		Intelligent circuit breaker protection
18	Ambient temperature	℃	-20~+40
19	Conditions of Use		Outdoor style
20	Installation method		Cement pole double pole installation

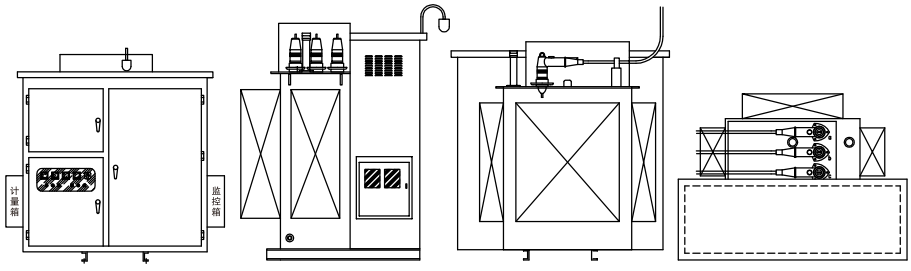
10KV POLE MOUNTED INTELLIGENT COMBINED TRANSFORMER

Model meaning

R Z Z S □ - □ / □

- Rated voltage (kV)
- Rated capacity (kVA)
- Transformer performance level code
- Three-phase
- Pole mounted
- Intelligent tyoe
- Business code

Overall dimensions



ZBW SERIES COMBINATION SUBSTATION

Scope of application

ZBW series combined substation, commonly known as European box transformer, is the combination of high-voltage electrical equipment, transformers, low-voltage electrical equipment into a compact complete set of power distribution devices, used in urban high-rise buildings, urban and rural buildings, residential communities, high-tech development zones, small and medium-sized factories, mining oil fields and temporary construction of electricity and other places, for the distribution system to accept and distribute electricity.

ZBW series combined substation, with a complete set of strong, small size, compact structure, safe and reliable operation, easy maintenance, as well as mobile and other special points, compared with conventional civil substations, the combined substation with the same capacity covers an area usually only 1/10 to 1/5 of conventional substations, greatly reducing the design workload and construction volume, reducing construction costs. In the distribution series, it can be used for ring network distribution system, and can also be used for dual power supply or radiation terminal distribution system, which is a new complete set of equipment for the construction and replacement of urban and rural substations.

ZBW series combined substation conforms to the standards of SD320-1992 "Box-type substation Technical conditions" and GB/T17467-1997 "high-voltage/low-voltage preassembled substation".

Working condition

Altitude not more than 1000m;

The maximum ambient temperature shall not exceed +40° C, the minimum shall not be lower than -25° C, and the average temperature within the 24-hour cycle shall not exceed +35° C.

Outdoor wind speed should not exceed 35m/s;

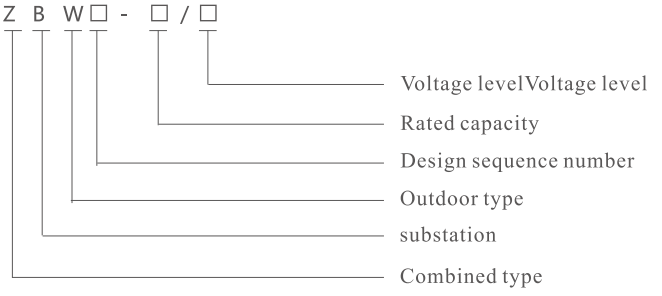
The air phase junction temperature shall not exceed 90%(+25°C);

The horizontal acceleration of the earthquake is not more than 0.4m/s2, and the vertical acceleration is not more than 0.2m/s²;

No fire, explosion danger, serious pollution, chemical corrosion and violent vibration places.

Special conditions of use, order with our company to negotiate to solve.

Model and meaning



ZBW SERIES COMBINATION SUBSTATION

Model meaning

Serial number	Items	Units	High voltage appliances	Transformer	Low-voltage appliances
1	Rated voltage Ue	kV	7.2、12	6/0.4、10/0.4	0.4
2	Rated capacity Se	kvA		Item type: 200~1250	
3	Rated current Le	kvA	200~630		100~3000
4	Rated breaking current	A kA	Load switch 400 to 630A Combined appliances depend on the fuse		15~63
5	Rated short-duration Withstand current	kA	20 (2S) 12.5 (4S)	200~400kvA	15 (1S)
				400kvA	30 (1S)
6	Peak rating Withstand current	kA	31.5、50	200~400kvA	30
				400kvA	63
7	Rated closing current	kA	31.5、50		
8	Power frequency withstand Voltage 1min	kV	Isolate breaks 48, 34 relative to and interphase 42, 30	Oil change: 35/5min	2kV when ≤300V
				Dry change: 28/5 min	At 300,660V 2.5 kV
9	Lightning Strike	kV	Relative and interphase 75.60 isolated fracture 85.75	75	
10	Noise level	dB		Oil change: <55	
				Dry change: <65	
11	Level of protection		IP33	IP23	IP33
12	Overall dimension	Different dimensions are selected according to the selected transformer capacity and form.			

ZBW SERIES COMBINATION SUBSTATION

Model meaning

1. This product is connected by a high-voltage distribution device, a transformer and a low-voltage distribution device, and is divided into three functional compartments, namely, a high-voltage room, a transformer room and a low-voltage room. High and low voltage room functions, high voltage side of the primary power supply system, can be arranged into a ring network power supply, terminal power supply, dual power supply and other power supply methods, can also be installed with high voltage metering device to meet the requirements of high voltage metering. Transformer room can choose S9, S11 series low loss oil immersed transformer and SC(B)9, SCR9, SC(B)10, SCR10 series dry type transformer; Transformer room is equipped with self-starting forced air cooling system and lighting system, low voltage room according to user requirements using panel or cabinet structure to form the user needs power supply scheme, power distribution, lighting distribution, reactive power rate compensation, power metering and power measurement andother functions to meet the different requirements of users, and to facilitate the user's power supply management and improve the quality of power supply.

2, the high-voltage room structure is compact and reasonable, and has a comprehensive anti-misoperation of the "five" interlocking function. When the transformer is required by the user, the rail can be set up to easily enter and exit from the two sides of the transformer room. Each room has automatic lighting device, in addition, all the components selected by the high and low pressure chamber can be relied on, easy to operate, so that the product is safe and reliable, easy to operate and maintain.

3, the use of natural ventilation and forced ventilation of two ways, so that the ventilation and cooling good. Transformer room and low pressure room have ventilation channels, exhaust fan temperature control device, according to the setting temperature can automatically start and close, to ensure that the transformer full load operation.

4, the box structure can prevent rain and dirt into the use of special steel plate or aluminum alloy plate production, anti-corrosion treatment, with long-term outdoor use of the strip. Ensure anti-corrosion, waterproof, dust-proof performance, long service life, and beautiful appearance.

ZGS-Z · F SERIES WIND POWER BOX TYPE SUBSTATION

Product overview

ZGS-Z ·F40.5/0.69 series wind power substation is the wind turbine issued 0.6-0.69kV voltage increased to 35kV or 10kV, connected to the grid output of the special substation equipment, is our company according to the requirements of the domestic wind power market and tailor-made for wind power generation of new products. Its emergence ADAPTS to the trend of establishing a wide range of wind farms in the country, and is a set of reliability, safety, practicability and economy in one of the ideal wind power system supporting products.

Model and meaning

ZGS - Z · F - □ - 40.5/0.69

- Low voltage side voltage (kV)
- High voltage side voltage (kV)
- Transformer capacity (kVA)
- Wind power
- Terminal type
- Integrated box- type

Make use of environmental conditions

1.The highest ambient temperature: +40℃ minimum: -40℃

2. Altitude ≤2000m

3. The daily average humidity ≤100%, the monthly average ≤90%

4. Seismic cracking 8 degrees (China 12 degree standard)

5. Outdoor wind speed is not more than 50m/s wind pressure 100kgf/m^2

6. Pollution resistance grade Ⅲ pollution area

7. Installation site outdoor, installed in no fire, explosion danger, no conductive, chemical corrosive gas places

8. Ice thickness 10 mm

ZGS-Z · F SERIES WIND POWER BOX TYPE SUBSTATION

Product features

1. The transformer of this product adopts high quality silicon steel sheet material. After electromagnetic optimization design, the no-load loss and load loss are lower than that of similar products, which ensures the full utilization of wind energy to the maximum extent;
2, safety: the high-voltage part of the load switch + fuse combination electrical appliances, can quickly and reliably protect the transformer, the low-voltage part can use circuit breakers or knife melt switches as the main switch, the configuration of small-capacity transformers to provide box and wind tower 0.4kV lighting and maintenance electricity;
3, high temperature resistance, overload operation ability is strong;
4, long life: more than 20 years of service life;
5, maintenance-free: no need to filter oil, oil change during the life, the transformer seal and transformer with the same life;
6, high level of protection: the wind variable box adopts double door sealing structure, all doors are sealed by sealing rubber strip, the air vents are equipped with dust-proof device, can effectively prevent dust, rain and snow on the wind change intrusion, protection level reached IP54.

The main technical parameters

Serial number	Items	Guaranteed value
1	Type	Three-phase, double-wound, oil-immersed self-cooling, low loss, fully sealed and maintenance-free
2	Maximum operating voltage (kV)	40.5
3	Rated frequency (Hz)	50
4	Rated capacity (kVA)	800-1600
5	Voltage ratio (kV)	38.5±2*2.5%/0.69
6	Vector Group	D,yn11
7	Impedance voltage	4.5%-6.5%
8	Voltage regulation mode	Non-exciting tap-changer
9	Transformer oil	Karamay 45# insulation oil
10	Rated short-duration power frequency withstand voltage (kV)	95kV/1min
11	Peak lightning Impulse withstand voltage (kV)	215
12	Cooling method	ONAN
13	Level of enclosure protection	Tank IP68, tank IP54
14	Temperature rise (k)	Coil: 63k, top oil: 53k
15	No-load current (%)	0.6%
16	Tone limit level (db)	No more than 50db

ZGS-Z · F SERIES WIND POWER BOX TYPE SUBSTATION

High voltage load switch performance table

Serial number	Items	Guaranteed value
1	Model number	ZGS-Z·F40.5/0.69
2	Voltage level (kV)	40.5
3	Maximum relative phase voltage (kV)	40.5
4	Maximum relative ground voltage (kV)	40.5
5	Rated short-duration power frequency withstand voltage	95kV/1min
6	Peak lightning impulse withstand voltage (kV)	200
7	Rated current (A)	630
8	Short-time withstand current (RMS -10 cycles)	20kA/2s
9	Rated breaking capacity (A)	630
10	Main loop resistance (μΩ)	Not greater than 150
11	Mechanical life (times)	Not less than 20000

High voltage fuse performance sheet

Serial number	Items	Guaranteed value
1	Model number	STR20-40.5
2	Rated voltage (kV)	40.5
3	Rated current (A)	100
4	Rated frequency (Hz)	50
5	Rated breaking capacity (kA)	40
6	Fuse current rating (A)	20 to 100 Optional

High voltage arrester performance table

Serial number	Items	Guaranteed value
1	Model number	HY5WZ-51/134
2	Rated voltage (kV)	51
3	Continuous operating voltage (kV)	40.8
4	Dc reference voltage (kV)	73
5	Leakage current at 0.75Ulma (μA)	Not less than 30
6	8/20μS nominal discharge current residual voltage (kV)	Not less than 134
7	2000μS square wave current (amplitude, A)	Not less than 400
8	4/10μS high current Impulse Withstand current (kV)	Not less than 65
9	Local discharge under 1.05Uc	Less than 14PC

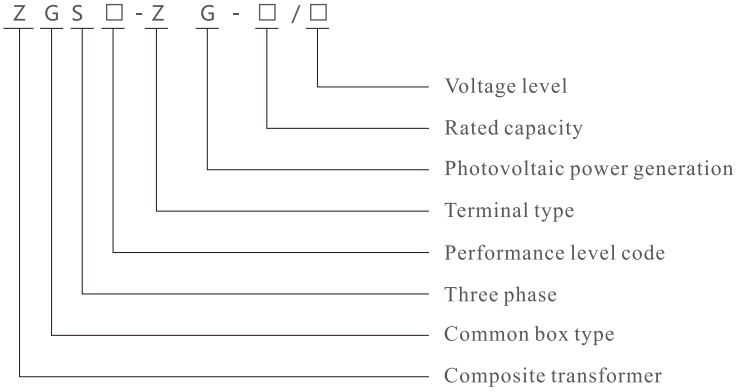
35KV PHOTOVOLTAIC COMBINED TRANSFORMER / PREASSEMBLED SUBSTATION

Product overview

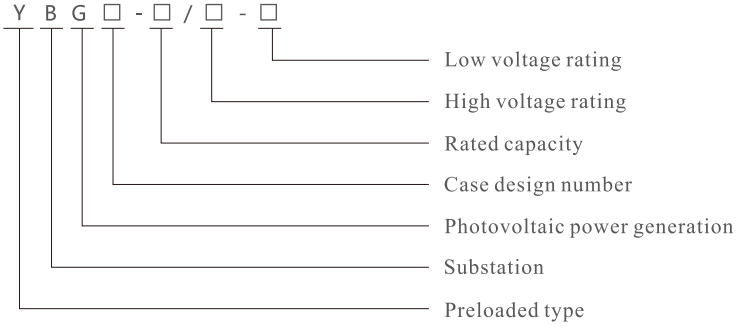
Solar energy is rich in resources and widely distributed. It is the renewable energy with the greatest development potential in the 21st century. With the global energy shortage and environmental pollution and other problems become increasingly prominent, solar photovoltaic power generation because of its clean, safe, convenient, efficient and other characteristics, has become a new industry focused on the development of countries around the world.

Model meaning

Scheme 1: photovoltaic power generation combined transformer (United States variable structure)



Scheme 2: PV pre-installed substation (China transformer structure) Rated capacity (KVA)



Scheme 3: High-voltage/low-voltage pre-installed substation (Eutransformer structure) model is the same as scheme 2

35KV PHOTOVOLTAIC COMBINED TRANSFORMER / PREASSEMBLED SUBSTATION

Make use of environmental strips

3.1 The altitude is generally not more than 1000m

The ambient temperature range is -25℃～+45℃

3.3 Outdoor wind speed shall not exceed 35m/s

3.4 Anti-shock: horizontal acceleration 0.3m/s; Vertical acceleration is not more than 0.15m/s2

3.5 Fouling rating: dish

3.6 Installation location: outdoor

Beyond the above normal use of environmental conditions, the company can be personalized design according to user requirements.

The main technical parameters

Voltage

System voltage: 35KV, 36.75KV, 38.5KV

High voltage side high working voltage: 40.5KV

Rated voltage of low voltage side: 0.27KV, 0.315KV, 0.4KV

Rated frequency: 50Hz

Rated insulation level

High voltage switch power frequency withstand voltage: 95KV

Power frequency withstand voltage of transformer: 85KV

Peak impact voltage: 200KV

Transformer low voltage side power frequency withstand voltage: 5KV

Phase number: three phase

Protection class: IP68 for fuel tank, IP54 for high and low pressure chamber, IP3X for high pressure chamber door after opening

Main component parameters

Conventional transformer technical parameters

Rated capacity (kVA)	High voltage combination and tap range			Coupling group Label	No load loss kW(9)	Load loss kW(9)	Short circuit impedance %
	High voltage (kV)	Tap range (%)	Low voltage(kV)				
1000	35	±2×2.5	0.315 0.27 0.3 0.4	Yd11,d11	As requested by client	As requested by client	6.5
1100	36.75						
1250	38.5						

35KV PHOTOVOLTAIC COMBINED TRANSFORMER / PREASSEMBLED SUBSTATION

Technical parameters of high pressure oil immersed load switch

Description	Parameters
Model number	BYFI-40.5(manual operation)
Voltage rating (KV)	40.5
Power frequency withstand voltage (KV)	95
Lightning Impulse voltage (KV)	200
Rated current (A)	630
Rated short-time withstand current and time (KV)/2s	20
Breaking current ability (A)	630
Mechanical life	2000(cycles)

Technical parameters of high pressure oil immersed fuse

Description	Parameters
Model number	XRNT-40.5
Fuse current rating (A)	40
Melt current rating (A)	16(500KVA,630KVA) 31.5(1000KVA,1100KVA,1250KVA)
Fuse short circuit breaking current (KA)	31.5
After the fuse has blown, the fuse can be easily replaced on site	

Technical parameters of high voltage arrester

Description	Parameters
Model number	YH5WZ-51/134
Type	Silicone rubber jacket gapless metal zinc oxide arrester
Rated voltage	51
Continuous running voltage	40.8
Rated current (A)	≤73
Dc 1mA reference voltage	
Nominal discharge current (KV)(peak)	≥5
Nominal discharge current residual voltage (KV)(peak)	≤134
2ms square Wave Current Tolerance value (A)(peak)	600~800

35KV PHOTOVOLTAIC COMBINED TRANSFORMER / PREASSEMBLED SUBSTATION

Technical parameters of low voltage frame circuit breaker

Description	Parameters
Rated voltage (V)	400
Rated current (A)	1250、1600、2000、2500、3200
Short-time withstand current and time (kA/1s)	50

Lighting overhaul transformer parameters

Model number	Rated capacity	High pressure combination		Join group label	Phase number	Frequency
		High voltage (kV)	Low pressure (kV)			
SG10-□/0.315/0.4	As per customer's request	0.315 (0.3、0.27、0.4)	0.4KV	Dyn11	Three phase	50Hz

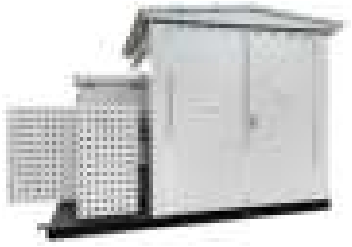
High voltage vacuum isolated load switch, fuse combination electrical equipment technical parameters

Description	Parameters
Model number	FZRN21C-40.5D(manual and electric operation
Voltage rating (KV)	40.5
Power frequency withstand voltage (KV)	95
Lightning Impulse voltage (KV)	185
Rated current (A)	Fuse as rated
Rated short-time open circuit breaker (KA)	20/31.5
Mechanical life	1000 (times)

Technical parameters of high pressure air type fuse

Description	Parameters
Model number	XRNT-40.5
Fuse current rating (A)	40
Melt current rating (A)	16(500KVA,630KVA) 31.5(1000KVA,1100KVA,1250KVA)
Fuse short circuit breaking current (KA)	31.5
After the fuse has blown, the fuse can be easily replaced on site	

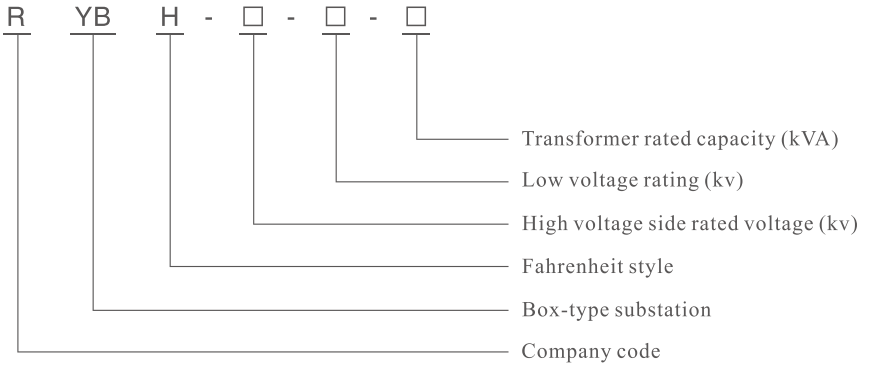
WIND SPECIAL COMBINED BOX TRANSFORMER (HUA TRANSFORMER)



Product overview

Wind power combined box transformer is the wind power generation supporting booster station in the factory in advance manufacturing, assembly, including booster transformer, high voltage switch, low voltage switch and power transformer and other auxiliary equipment configuration in a common housing and through the type test of a complete set of substation. The structural product integrates the advantages of Ou-change and Mei-change, is a new type of booster equipment specially designed for the particularity of wind power, with complete sets of strong, easy to install, short construction period, low operating costs, high structural strength, strong anti-corrosion performance, environmental protection and energy saving advantages, suitable for the natural conditions of the beach, desert and other operating environment. The product has passed the test of Wugao Institute, and the performance of the product fully meets the requirements of wind power plant.

Model description



Product execution Standards

GB17467-2020 "High voltage/Low voltage preassembled Substation"
DL/T537-2018 "High Voltage/Low voltage Preassembled substation Selection Guidelines"

Operating environment

Altitude	≤4000m
Ambient temperature	Maximum temperature +42 ° C, minimum temperature -40 ° C
Humidity	The average daily relative humidity does not exceed 95%; And the average monthly relative humidity should not exceed 90%
Wind speed	Outdoor wind speed does not exceed 45m/s
quakeproof	Horizontal acceleration is not greater than 0.4m/s², vertical acceleration is not greater than 0.15m/s²
Inclination of the installation site	No more than 3°
Installation environment	The surrounding air has no obvious pollution such as flammable gas, and the installation site has no violent vibration

If you order this product beyond the above conditions, you can negotiate with the company.

WIND SPECIAL COMBINED BOX TRANSFORMER (HUA TRANSFORMER)

Product overview

s of European change and American change, which is more suitable for the use of wind power plants, and has the following characteristics:

· The isolation knife of the high voltage switch is placed in separate chambers with the arc extinguishing chamber and the fuse, which solves the problem that the whole line needs to be cut off when the general switch replaces the fuse or the arc extinguishing chamber, and truly realizes the performance of single maintenance without stopping other fans;

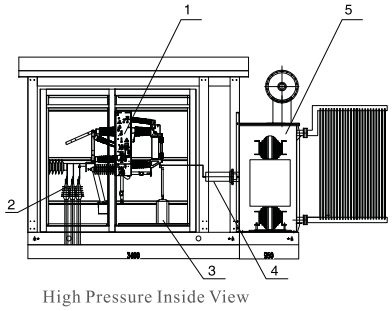
· Busbar connection is used to connect the high-voltage switch to the transformer, which solves the operation safety problem caused by cable connection;

· Drawing on the advantages of Meichange, the transformer heat sink is installed in open mode to realize completely natural ventilation and heat dissipation performance, saving a lot of power loss caused by forced ventilation, and eliminating the defects of unreliable fan performance and easy overtemperature trip caused by forced ventilation; It also realizes that the electric-carrying body is completely sealed in the box, which solves the dust problem;

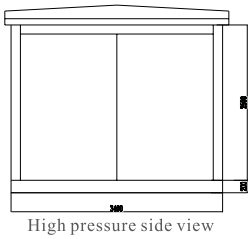
· The oil level meter, gas relay, pressure release and other devices of the transformer are all installed in open type, which can directly observe the operation of the transformer; · The protection function is exactly the same as the protection function of Oudian;

· Because there is no transformer room, the floor area of the whole machine is reduced compared with the European transformer, and the inlet and outlet mode of the transformer transformer structure saves a lot of copper, so the cost of the whole machine is lower than the European transformer, and the user's investment is reduced.

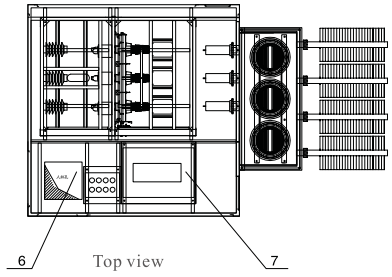
Schematic diagram of product structure



High Pressure Inside View



High pressure side view

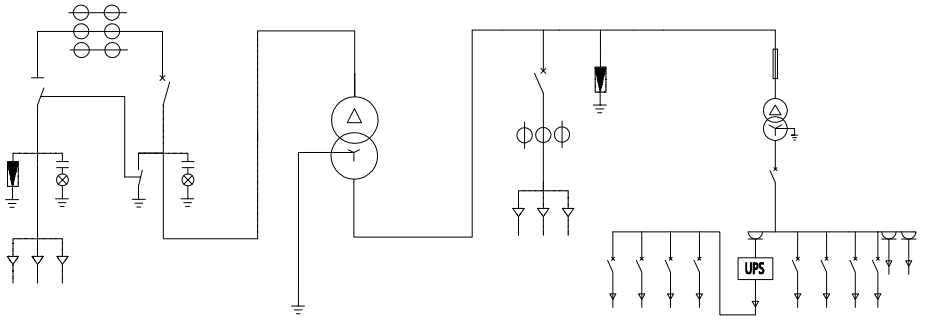


Top view

1. High voltage vacuum circuit breaker
2. High voltage cable
3. High voltage transformer
4. High voltage dry bushing
5.Transformer
6.Low Voltage Cabinet
7. Foundation inlet

WIND SPECIAL COMBINED BOX TRANSFORMER (HUA TRANSFORMER)

Typical scheme diagram



Main technical parameters

Items		Units	High voltage switch		Transformer		Low-voltage appliances
Rated voltage		kV	12	40.5	10/0.69	35/0.69	0.69
Rated capacity		kVA			600 ∽ 3300		
Rated frequency		Hz	50		50		50
Rated current		A	200	80			
1min power frequency withstand voltage	Phase and ground	kV	42	95	35	85	5
	Isolate the fracture	kV	48	110			
Lightning shock withstand voltage	Phase to phase and to ground	kV	75	185	75	220	12
	Isolation fracture	kV	85	215			
Rated short circuit breaking current (RMS		kA	50	31.5			50
Rated short-time withstand current (RMS)		kA	20(4S)	20(4S)			40(1S)
Rated short circuit closing current (peak)		kA	50	50			
Rated peak withstand current		kA	50	50			
Level of protection		IP33					
Noise level		⩽ 55dB					

WIND SPECIAL COMBINED BOX TRANSFORMER (HUA TRANSFORMER)

Component selection table

Capacity	High voltage switch		High voltage fuse		High voltage lightning arrester		Low pressure switch	Auxiliary variable presser
	12	40.5	12	40.5	12	40.5		
600	FZRN25-12	FT16-40.5	XRNT-12/63	XRNT-40.5/25	HY-5WZ-17/45、TBP-B-17F	HY-5WZ-51/134 TBP-B-51F	RDW/1 Circuit breaker	SG-5/0.69 - 0.4 capacitive According to wind Model type OK
660			XRNT-12/63	XRNT-40.5/25				
750			XRNT-12/80	XRNT-40.5/25				
900			XRNT-12/100	XRNT-40.5/25				
1400			XRNT-12/125	XRNT-40.5/40				
1600			XRNT-12/160	XRNT-40.5/50				
2200				XRNT-40.5/63				
2350				XRNT-40.5/63				
2800				XRNT-40.5/80				
3300				XRNT-40.5/80				

WIND SPECIAL COMBINED BOX TRANSFORMER (HUA TRANSFORMER)

Technical requirements

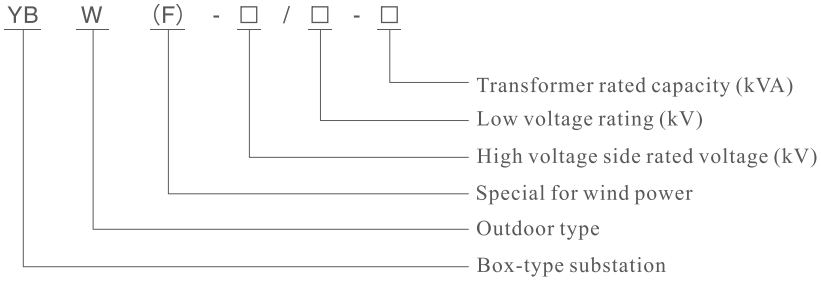
1. The size provided in the figure is applicable to general geological conditions, and the basic size can be determined according to the situation for the location with poor geological conditions.
2, grounding network according to the installation site soil conditions, in accordance with the relevant regulations to determine, grounding resistance should be guaranteed not more than 4Ω.
3. The inner diameter of the protection pipe laid is not less than 1.5 times of the outer diameter of the cable (including the outer protection layer). (The number of protective tubes laid is determined according to the required cable) If the approximate outer diameter of the cable can not be provided, it can be buried according to the diameter of the pipe.
4, the box transformer should be installed on the steel plate of the horizontal concrete platform, which should ensure that it bears its weight. The variable weight of the box is about 8 tons, and the platform should be strong; And ensure that the flatness of the top steel strip is less than 3mm, it should resist a magnitude 8 earthquake. The foundation should be able to bear 10 tons of weight for a long time.
5. It should be prevented from entering the cable trench; After installing the cable, the cable mouth should be sealed with asphalt. Shutters and metal mesh should be installed at the vents to prevent water splashing and small animals from entering.
6, cable trench, the actual project should be set according to the specific situation.
7. The outer dimension of the box is length × width =L×Bmm, and the size is provided according to the specific scheme.
8, the foundation should be located on a higher terrain, and should not be water. Moisture-proof layer (asphalt or linoleum) should be added around the foundation.
9. The foundation pad is C10 concrete and the foundation is C20 concrete. The brick wall is M5 cement mortar molding machine brick.
10, the upper ring beam is C20 concrete, the steel bar "ϕ" is 1 grade steel, the steel bar "ϕ" is 2 grade steel.
11, the foundation must be dug to the old soil, and should be drilled, in conjunction with the relevant personnel to check the tank, no other circumstances can be carried out foundation construction.
12, the top of the ring beam should be ensured smooth, should be based on the design of the smooth error requirements of construction.
13, the length direction of the four corners of the middle of the structure column each, the structure column reinforcement into the foundation and the ring beam, and the foundation, the ring beam pouring.

WIND PV SPECIAL PRE-LOADED BOX CHANGE (EUROPE TRANSFORMER)

Product Overview

Wind power special pre-loaded box type substation is the wind power generation supporting booster station in the factory in advance manufacturing, assembly, including booster transformer, high voltage load switch, low voltage switch and power transformer and other auxiliary equipment, configured in a common shell and through the type test of a complete set of substation. From the structural form and the European box variant is the same, so it is also called "wind power European change". Its performance is fully in line with GB T17467-2010 "high pressure/low pressure pre-installed substation", it is for the special requirements of wind power generation launched a new type of booster equipment, because it has a complete set of strong, easy to install, short construction period, low operating costs, high structural strength, corrosion resistance and other advantages, It is completely suitable for the operating environment such as the beach, grassland and desert where the natural conditions are relatively bad. The product passed the type test of Wuhan High Pressure Research Institute, and the performance of the product fully meets the requirements of wind farm use.

Model description



Product execution Standards

GB17467-2020 "High voltage/Low voltage preassembled substation"
DL/T537-2018 "High Voltage/Low voltage Preassembled substation Selection Guidelines"

Operating environment

Altitude	⩽4000m
Ambient temperature	maximum +42°C, minimum -40°C
Humidity	The average daily relative humidity does not exceed 95%; And the average monthly relative humidity should not exceed 90%
Wind speed	Outdoor wind speed does not exceed 45m/s
Shock-proof	Horizontal acceleration is not greater than 0.4m/s^2, vertical acceleration is not greater than 0.15m/s^2
Inclination of the installation site	No more than 3°
Installation environment	The surrounding air has no obvious pollution such as flammable gas, and the installation site has no violent vibration

If you order this product beyond the above conditions, you can negotiate with the company.

WIND PHOTOVOLTAIC SPECIAL PRE-INSTALLED BOX CHANGE (OU CHANGE)

Product structure characteristics

· The substation is composed of high voltage room, transformer room, cable room and low voltage room, which are arranged in mesh shape;

· The box is equipped with sufficient natural vents and heat insulation measures. Natural ventilation is the main, forced ventilation as a supplement, to ensure the normal operation of the booster transformer; · The box structure skeleton is welded with section steel or adopts glass fiber cement non-metal structure box door opening Angle 180° and fixed to the wall.

Meet the requirements of use in a strong wind environment;

· Box frame hot spray zinc after spray painting treatment, salt spray, moisture and heat, mold, outdoor weather resistance;

· The top cover is double-layer structure, which can ensure to prevent rain from entering and prevent heat radiation from increasing the indoor temperature;

· A separate cable room is set up to facilitate customer connection;

· Load switch or switch cabinet isolation knife and arc extinguishing chamber, fuse separate room installation. Ensure that the wind farm does not affect the power supply of the whole line when the maintenance of a single box changes;

· The "five prevention" has complete functions, easy operation and maintenance, and can meet the requirements of rainy day maintenance according to needs;

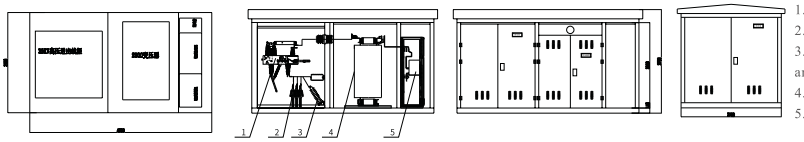
· Different shell anticorrosion processes are applied for different operating environments of wind farms:

· Wind power generation facilities are generally built on beaches, shallow seas, grasslands, deserts and other sparsely populated places with harsh natural conditions.

· When the box is used in the seaside or shallow sea, all metal structural parts are treated with sand spraying, hot spraying zinc and spray painting. This anti-corrosion process is widely used in shipbuilding and container manufacturing industry. The dual protection of physical and chemical can ensure that the equipment can be used in a heavy salt spray environment for 25 years without rust; In addition, the non-metal shell with excellent anti-corrosion performance is also a good choice for you.

· When the box is used in desert, grassland and other cold, wind-sand environment, the shell is made of composite color steel plate or stainless steel plate with strong paint film adhesion to prevent the paint film from peeling off in the wind-sand environment for a long time to cause the shell to rust. The middle is filled with polyurethane and aluminum silicate mixture, which has excellent thermal insulation performance to ensure that the equipment is safe and quickly put into operation in a cold environment.

Product structure characteristics



1.High negative switch
2.High Voltage cable
3.High voltage surge arrester
4. Transformer
5. Low pressure cabinet

WIND SPECIAL COMBINED BOX CHANGE (US. TRANSFORMER)

Product Overview

Wind power generation with the combined transformer, is the boost transformer body, switchgear, fuse, tap changer and the corresponding auxiliary equipment for the combination of transformers, high-voltage switches, fuses are into the tank, the overall size is small, its structural form and the 1990s from the United States introduced box change similar, the industry known as "wind power beauty change". According to the product structure and component configuration can be divided into two kinds, one is fully insulated box type products; One is the high pressure using dry sleeve line of the common box products.

Model description

□ □ □ □ - □ · F - □ / □ - □

- Transformer Rated capacity (kVA) Low
- voltage side rated voltage (kV)
- High voltage side rated voltage (kV)
- for wind power generation
- Wiring scheme: Z-terminal; H- ring net work design
- number
- S- Three phase
- G- Integrated box; F- split box
- Z- combined type

Product execution standard

GB1094-2013 "Power Transformer"
GB/T6451-2015 "Three-phase oil-immersed power transformer technical parameters and requirements"
Reference execution: JB/T10217-2013 "Combined transformer"

Use environment

Altitude	≤4,000 m
Ambient temperature	Maximum temperature +42 ° C, minimum temperature -40 ° C
Humidity	The average daily relative humidity does not exceed 95%; And the average monthly relative humidity should not exceed 90%
Wind speed	Outdoor wind speed does not exceed 45m/s
Shock-proof	Horizontal acceleration is not greater than 0.4m/s², vertical acceleration is not greater than 0.15m/s²
Inclination of the installation site	Not more than 3 degrees
Installation environment	The surrounding air is not corrosive, flammable gas and other obvious pollution, installation site without violent vibration

When ordering this product in excess of the above conditions, you can negotiate with the company.

WIND SPECIAL COMBINED BOX CHANGE (MEI CHANGE)

Product structure characteristics

2kV, 40.5kV side outlet adopts fully insulated cable prefabricated connector, as well as touch plug type lightning arrester, the whole product has no exposed high voltage live body, high protection level, safety and reliability;

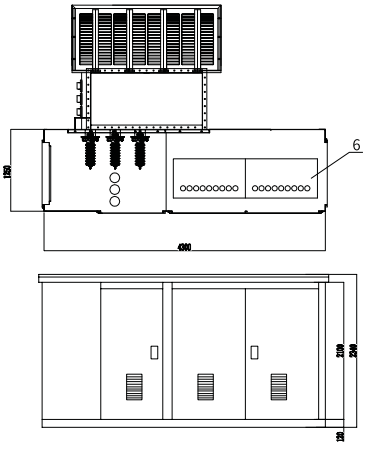
· Fully insulated box-type combined transformer, transformer and high-voltage components are placed in two independent boxes. It not only solves the problem of oil contamination on the transformer, but also realizes that the high-voltage component and the transformer can be repaired separately;

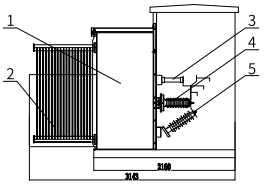
· 12kV products use insert fuse and backup protection fuse protection; 40.5kV products adopt plug-in full-range protection fuse protection; · No leakage, each box is subjected to 50kPa/12 hours of sealing test to ensure that the oil tank seal no leakage;

· The high pressure adopts the common box-type combined transformer with dry sleeve outlet line, which is convenient for wiring, and the high pressure can realize more incoming and outgoing line circuits with low cost;

· The equipment shell is sprayed with strict painting process, and sprayed with anti-ultraviolet finish paint, which has strong outdoor weather resistance; · The transformer has no separate shell, and the heat dissipation effect is good.

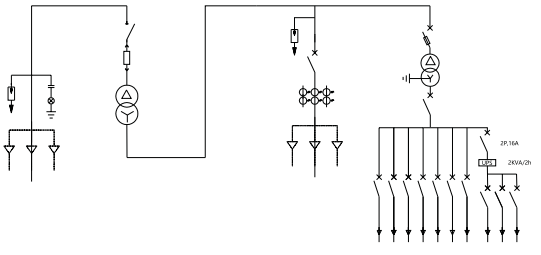
Product structure outline diagram





1. Transformer
2. Radiator
3.High voltage insulators
4. High pressure thousand casing
5. High voltage arrester
6. Low pressure cabinet

Typical scheme drawing



WIND SPECIAL COMBINED BOX CHANGE (US. TRANSFORMER)

component selection table

Capacity	High voltage switch	High voltage fuse	High voltage lightning arrester	Low voltage switch	Auxiliary transformer
	40.5	40.5	40.5		
600	BYF1-40.5 LS2B338H3	XRNT-40.5/25	HY5WZ-51/134、TBP-B-42	HKDW1 Circuit breaker KFW2 circuit breaker	SG - 63/0.69 SG - 3/0.69 Capacity available according to wind Type determination
660		XRNT-40.5/25			
750		XRNT-40.5/25			
900		XRNT-40.5/25			
1400		XRNT-40.5/40			
1600		XRNT-40.5/50			
2200		XRNT-40.5/63			
2350		XRNT-40.5/63			
2800		XRNT-40.5/80			
3300		XRNT-40.5/80			

10kV Grade underground combined transformer

product feature

1, transportation and lifting is very convenient and simple. The user only needs to lift the four lugs on the housingdirectly to lift the entire underground composite transformer, without any other spreaders.

2, the use of fully insulated structure, no insulation distance, reliable guarantee of personal safety.

3. The oil tank is made of 1cr18ni9T low alloy structural steel. 1cr18Ni9Ti comprehensive mechanical properties.weldability and low temperature toughness, cold stamping and other properties are very good, compared with Q235-Asteel, strength increased by 50%, atmospheric corrosion resistance increased by 20~38%, low temperature impacttoughness is also very good, can effectively improve the comprehensive mechanical properties of the tank.

4. The surface spraying of the fuel tank is carried out in accordance with the surface treatment spraying processstandards for ships, that is, the primer and top paint are sprayed after the steel plate is polished, efectively ensuringthe weatherability of the oil tank shell.

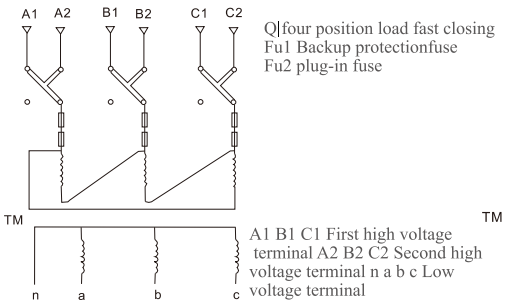
5, with a fully sealed structure, the exposed part of the high and low voltage terminal is isolated from the environmentthrough high-quality insulation sealant. When the local buried transformer is installed in the pit, it can stil operate safelywithin a certain period of time when the pit is flooded or even submerged, which can resist flood disasters andeffectively improve the reliability of the power supply system.

6, the oil immersed load switch is imported special extended three-phase linkage switch, with a spring operationstructure, can complete the load breaking and closing operation. The two-position switch in the load switch is used for asingle terminal, and the four-position switch itself has a ring networkTherefore, the underground combination transformer can run in the ring network, but also can run in the terminal powersupply mode, the conversion is very convenient, improve the reliability of power supply.

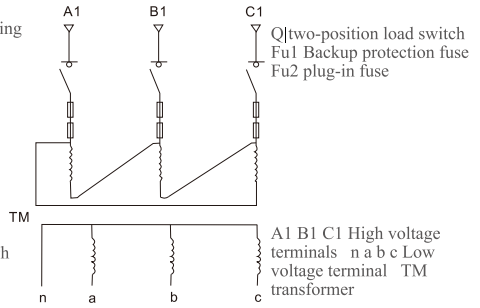
7. the use of uniaue heat sink, Ensure the mechanical strenath and heat dissipation capacity of the heat sink8, after installation does not occupy the surface area, does not affect the view.

9.suitable for waterproof, fireproof underground power grid,10, the product before the factory through strict inspection, high reliability.

Electrical principle



Ring network type underground combined transformer



Terminal type underground combined transformer

PEOPLE ELE. APPLIANCE GROUP CHINA

No.555, Liule Road, Liushi, Yueqing City, Zhejiang Province, 325604, China

www.peopleelectric.com Email: simon@chinapeople.com