

# BOX- TYPE SUBSTATION

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## ZGS-Z · F SERIES WIND POWER BOX TYPE SUBSTATION

### Product overview

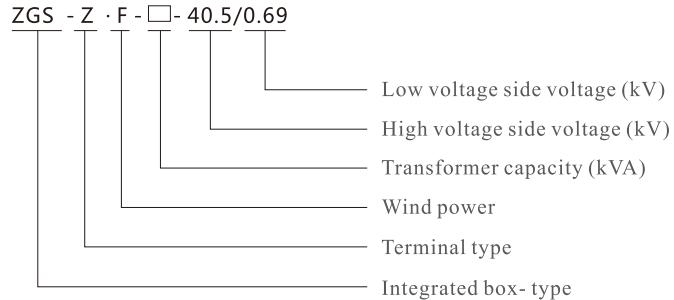
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ZGS-Z ·F40.5/0.69 series wind power substation is the wind turbine issued 0.6-0.69kV voltage increased to 35kV or 10kV, connected to the grid output of the special substation equipment, is our company according to the requirements of the domestic wind 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

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### Make use of environmental conditions

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1. The highest ambient temperature: +40°C minimum: -40°C
2. Altitude  $\leq 2000\text{m}$
3. The daily average humidity  $\leq 100\%$ , the monthly average  $\leq 90\%$
4. Seismic cracking 8 degrees (China 12 degree standard)
5. Outdoor wind speed is not more than 50m/s wind pressure  $100\text{kgf/m}^2$
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

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### 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)	$38.5 \pm 2 \times 2.5\% / 0.69$
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

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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 ( $\mu\Omega$ )	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 0.75U <sub>1mA</sub> ( $\mu$ A)	Not less than 30
6	8/20 $\mu$ s nominal discharge current residual voltage (kV)	Not less than 134
7	2000 $\mu$ s square wave current (amplitude, A)	Not less than 400
8	4/10 $\mu$ s high current Impulse Withstand current (kV)	Not less than 65
9	Local discharge under 1.05U <sub>c</sub>	Less than 14PC