

# New Energy Generation Dedicated Box-Type Transformer

The ideal auxiliary equipment for new energy generation systems



Nomenclature	<b>Z</b> <b>G</b> <b>S</b> <span style="border: 1px solid black; padding: 2px;"> </span> <span style="border: 1px solid black; padding: 2px;"> </span> - <span style="border: 1px solid black; padding: 2px;"> </span> • <span style="border: 1px solid black; padding: 2px;"> </span> - <span style="border: 1px solid black; padding: 2px;"> </span> / <span style="border: 1px solid black; padding: 2px;"> </span>									
	Combined Transformer	Common tank type	Three-phase	Winding type F: Split-winding+omitted if not split-winding	Technical level code	HV wiring scheme Z: Terminal+H: Ring Main	New Energy G: Photovoltaic; F: Wind power	Rated capacity (kVA)	Voltage class (kV)	
Product Overview	<p>The new energy generation dedicated box-type transformer is a high-voltage/low-voltage prefabricated substation (hereinafter referred to as the substation) that integrates HV switchgear, the transformer active part, and protective fuses within an oil tank, along with LV switchgear and corresponding auxiliary equipment. It is a dedicated step-up device that takes the voltage from new energy grid-tied inverters (or AC generators), steps it up to 10kV or 35kV via a step-up transformer, and outputs the electrical energy through 10kV or 35kV lines. It is the ideal auxiliary equipment for new energy generation systems.</p>									
Product Features	1	The substation features a compact structure and small footprint; external radiators provide better heat dissipation.								
	2	The substation utilizes new transformer series technology with a rational, safe, and reliable structure.								
	3	Transformer oil is used as the insulating medium for 10kV or 35kV HV components, significantly reducing safety clearances.								
	4	The oil tank utilizes a hermetically sealed structure to completely isolate the oil from the atmosphere, greatly reducing the oxidation process and moisture ingress, thereby improving system stability, reliability, and safety. Meanwhile, plate-type radiators are used for easy disassembly and simple maintenance.								
	5	The enclosure is treated with a special shot blasting process, providing excellent anti-corrosion and UV resistance capabilities to effectively withstand wind and sand erosion.								
	6	The LV side utilizes the latest domestic intelligent circuit breakers and molded case air switches, featuring high breaking capacity and excellent protection performance.								
	7	The transformer oil tank can be equipped with pressure gauges and thermometers with communication interfaces; the load break switch can be equipped with limit switches to achieve remote monitoring, operation, and maintenance.								
	8	The enclosure utilizes a fully sealed design; protection ratings can reach IP54 for the HV/LV compartments and IP68 for the transformer body.								
Executive Standards	J B/T10217-2013	Combined Transformers			GB311.1	• Insulation Coordination for High Voltage Transmission and Distribution Equipment				
	GB1094	• Power Transformers			GB50150	• Standard for Handover Test of Electrical Equipment in Electrical Device Installation Engineering				
	GB/T6451	• Technical Parameters and Requirements for Oil-immersed Power Transformers			GB/T5273	• Connection Terminals for Transformers, High-voltage Electrical Appliances, and Bushings				
	GB11022	• Common Technical Specifications for High-voltage Switchgear and Controlgear Standards			GB4208	• Degrees of Protection Provided by Enclosure (IP Code)				
	GB/T16927	• High-voltage Test Techniques			GB/T191	• Packaging - Pictorial Marking for Handling of Goods				
Service Conditions	1	• Ambient air temperature: -30°C to +45°C			5	• Pollution level: Class II, III				
	2	• Altitude: ≤1000m (Designed as plateau-type for >1000m)			6	• Seismic intensity: Not exceeding 8 degrees				
	3	• Outdoor wind speed: ≤35m/s			7	• Installation site: Free from fire, explosion hazards, severe pollution, chemical corrosion, and violent vibration				
	4	• Relative humidity: Daily average ≤95%, monthly average ≤90%								