

# Intelligent Integrated Prefabricated Substation

This complete set of pre-installed products integrates high voltage control, protection, transformation, and distribution equipment. It is designed for efficient and reliable power transmission and distribution.



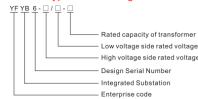
## Overview

### General

The intelligent integrated substation is a nationalized American box transformer launched by YIFA Company. As an important power supply unit in cable distribution network, this product is a set of pre-installed products which integrates high voltage control, protection, substation and distribution equipment. It is widely used in urban and rural distribution network. The product has high-voltage load switch and high-voltage fuse in transformer oil, and has two structural forms of common box and sub-box with transformer body. Full sealed structure is adopted in the tank, which is equipped with oil temperature gauge, oil level gauge, pressure gauge, pressure relief valve, oil discharge valve and other components to monitor the operation of the transformer.

The product is divided into ring network, terminal and power supply mode. In order to make this product more suitable for the actual requirements of China's power grid, Yifa company has introduced plug-in dry fuse. Fuse breakage does not affect the performance of transformer oil. According to the complexity of low voltage feeding requirements, this product can be divided into three types: standard type, reinforced type and comprehensive type, so that users and design units can be more flexible and economical in type selection.

### Product type and meaning



A fully integrated power distribution unit designed for modern grid infrastructure.

## Integrated Intelligent Prefabricated Substation

This prefabricated substation is a comprehensive, pre-installed power solution integrating high-voltage control, protection, transformation, and distribution equipment. Designed for high efficiency and reliability, it serves as a key power supply unit for urban and rural cable distribution networks. The full-sealed, theft-proof structure and intelligent monitoring systems ensure safe and robust operation in diverse environmental conditions.

## Technical Specifications

### Core Electrical Parameters

**10 kV**

Rated HV Voltage

**0.4 kV**

Rated LV Voltage

**50 Hz**

Rated Frequency

**50 dB**

Noise Level

### Protection and Stability

- Case Protection Class: IP3X
- Thermal stability capacity (HV switchgear): 20kA/2s
- Rated short-circuit breaking capacity (LV switch): 35kA
- High-voltage load switch transferred current: >1500A

## Environmental Conditions

### Operational Limits

Parameter	Value
Ambient Temperature	-30°C to +40°C
Max Altitude	1000m
Max Wind Speed	34m/s
Daily Relative Humidity	d 95%
Installation Inclination	d 3degrees

### Seismic Resistance

Horizontal acceleration d 0.4m/s<sup>2</sup>, Vertical acceleration d 0.15m/s<sup>2</sup>

## Design and Construction

### Environmental condition

- 1.Ambient temperature: maximum temperature + 40 C, minimum temperature - 30 C
- 2.Altitude: ~1000m
- 3.Wind speed: about 34m/s (< 700 Pa)
- 4.Humidity: average daily relative humidity < 95%, average monthly relative humidity < 90%
- 5.Shake roof: horizontal acceleration < 0.4m/s<sup>2</sup>, vertical acceleration < 0.15m/s<sup>2</sup>
- 6.Inclination of installation site: < 3 degrees
- 7.Installation environment: The surrounding air is not obviously polluted by corrosive and flammable gases, and there is no severe vibration at the installation site.
- 8.When ordering this product beyond the above conditions, you may negotiate with our company.

### Structure character

The framework structure of the box enclosure is made of channel steel and angle steel with higher mechanical strength. The enclosure is made of aluminum alloy plate with smooth surface, beautiful outline and better anticorrosion performance. The base of the box body is 300-600mm higher than the ground. All the doors of the box enclosure are open to outside, and the opening angle is larger than 90° and it set with location device, handle secret door, as well as built-in locks which have the function of rain proof, anti-blockage and rust protection.

Durable aluminum alloy enclosure with high-strength framework for demanding outdoor environments.

### Design Features

- Full-sealed, theft-proof structure
- Aluminum alloy enclosure for anticorrosion
- Natural ventilation and heat insulation
- Rainproof, anti-blockage, and rust-protected door locks
- Integrated monitoring sensors: Oil temperature, level, pressure, and relief valve