

TENRONY

E L E C T R I C A L

SVR Feeder Auto Voltage Regulator

Intelligent Voltage Regulation for 6kV / 10kV / 35kV

★ National Patent ZL 02 2 92527.9 ★ National Torch Program
★ National Key New Product ★ SGCC “Four-New” Catalog Selected

1,000+ Units Deployed

20+ Years Safe Operation

±30% Regulation Range

01 Product Overview

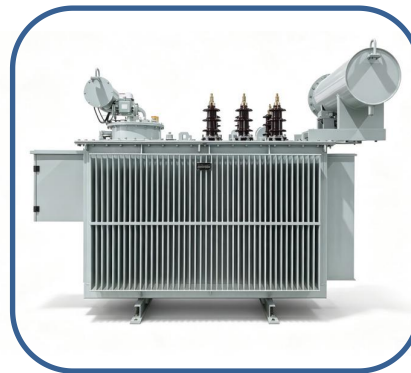
The SVR Feeder Auto Voltage Regulator is an intelligent voltage regulation device that automatically tracks line voltage variations and adjusts its internal tap ratio to maintain a stable output voltage. It provides automatic regulation within $\pm 30\%$ of the input voltage range, making it especially suitable for lines with large voltage fluctuations or significant voltage drops.

Key Highlights

- ✓ Replaces imported voltage regulators (Japan, etc.)
- ✓ Superior technical parameters vs. equivalent imported products
- ✓ Best performance-to-price ratio in its class
- ✓ National Patent, Torch Program, Key New Product certified
- ✓ 1,000+ units deployed across 7+ industries since 2003
- ✓ Critical role in Yushu earthquake relief (2010) - airport power supply

02 Key Features

Compact & Efficient High capacity, low loss, compact footprint. Easy to install and maintain in any environment.	Auto Tap Changing Tracks voltage variations and adjusts the 3-phase on-load tap-changer with precision and reliability.	Flexible Parameters Adjustable voltage reference, action delay, range, and operation count limits for site customization.
Real-Time Display Shows output voltage, current, daily/total operations, tap position, and high/low tap indicators.	Comprehensive Protection Upper/lower tap limits, operation timing, over-current & under-voltage automatic lockout.	DSP Digital Controller High-speed DSP with precision signal detection, strong anti-interference, and lightning protection.
Remote Communication Short-range wireless for on-site monitoring. Optional GPRS/CDMA for remote access.	Bi-Directional Power Flow Supports feeders with embedded small hydropower generation in both wet and dry seasons.	Proven Reliability 1,000+ units since 2003; earliest units exceed 10 years continuous safe operation.



03 Technical Specifications

General Specifications

Parameter	Specification
Rated Voltage	6 kV / 10 kV / 35 kV
Rated Capacity	$\leq 4,000$ kVA (6 kV) / $\leq 12,500$ kVA (10 kV) / $\leq 24,000$ kVA (35 kV)
Number of Phases	3
Rated Frequency	50 Hz
Cooling Method	ONAN (Oil Natural Air Natural)
Connection Symbol	Ya0

Voltage Regulation Ranges (10 kV Example)

Range	Input Voltage	Output Voltage
-10% to +10%	9.0 kV – 11.0 kV	10 kV
-5% to +15%	8.66 kV – 10.32 kV	10 kV
0% to +20%	8.0 kV – 10.0 kV	10 kV



04 Solution Comparison

The table below compares the SVR Feeder Auto Voltage Regulator with alternative approaches for voltage regulation on long distribution feeders:

Solution	Technical	Economic	Installation	Maintenance
Line Capacitor Bank	Moderate	Low Cost	Moderate	High
Line Booster	Good	Expensive	Complex	High
Replace / Add Transformer	Good	Very Expensive	Major Shutdown	Moderate
Reconductoring	Good	Very Expensive	Major Project	Moderate
★ SVR Feeder	Optimal	Cost-effective	Simple	Low

★ SVR offers the best balance of technical performance, cost-effectiveness, and ease of deployment.

05 Engineering Case Study

Western China Mining Enterprise

Before Installation – 8.4 kV

The mining facility was at the end of a long, heavily loaded feeder.

Average voltage was only ~8.4 kV, well below the nominal 10 kV, making normal production impossible.

After Installation – 10 kV

The SVR operates at tap position 6, regulating voltage to ~10 kV.

The mining facility now runs at full production capacity with stable voltage..

Deployed Solution: SVR-2000/10-7 (0 to +20%) Feeder Auto Voltage Regulator

Regulator•Problem: Long feeder + heavy load + end-of-line voltage collapse

Analysis: All alternatives evaluated — SVR selected for optimal cost-performance ratio

Result: Tap 6 → Output 10 kV → Full production restore



06 Application Areas

Rural Distribution Long-distance rural feeders with voltage drop

Urban Distribution City network voltage quality improvement

Oil Fields Remote well pumping stations

Coal Mining Underground & surface mining operations

Metallurgy & Chemical Industrial plants with sensitive equipment

Disaster Relief Yushu earthquake airport power supply (2010)



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