APEX ELECTRICS

Rectifier & Phase-shifting Transformer Series

Comprehensive solutions from standard 6-pulse to advanced multi-pulse (12, 24, 36, 48-pulse) configurations.

Logo & Packaging Customization

Parameter & Drawing Design Customization

OPTIMIZED PERFORMANCE | HIGH EFFICIENCY | SUPERIOR SAFETY | ECO FRIENDLY | MAINTENANCE FREE

Overview

Versatile Rectification Series: Our series covers everything from Standard 6-pulse to advanced Phase-shifting (12 to 48-pulse) transformers. This integrated range provides stable, high-efficiency power for industrial rectifier systems of any complexity.

Advanced Harmonic Control: Specially designed for non-linear loads, our phase-shifting technology cancels harmonics at the source. This protects your grid, reduces interference, and significantly extends the lifespan of sensitive electronic equipment.

Heavy-Duty Reliability: Built with 100% Oxygen-free Copper and premium Silicon Steel, our transformers offer high mechanical strength against short-circuit stress. The Hermetically Sealed design ensures maintenance-free operation in harsh environments.

Industry-Specific Customization: We provide precise vector groups and phase-shift angle customization. This makes our solutions ideal for Green Hydrogen, Electrochemical Smelting, and high-power VFD industrial applications.

Application

Electrochemical & Electrolysis

Aluminum & Copper Smelting

VFD Transformers

Ideal for high-power VFD inverters. Supports large fans, pumps, and compressors.

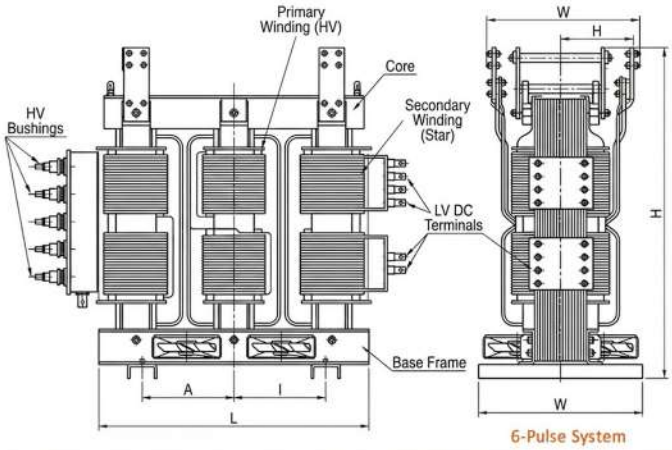
Explosion-proof Compatible

High-torque power for heavy-duty hoists and conveyors.

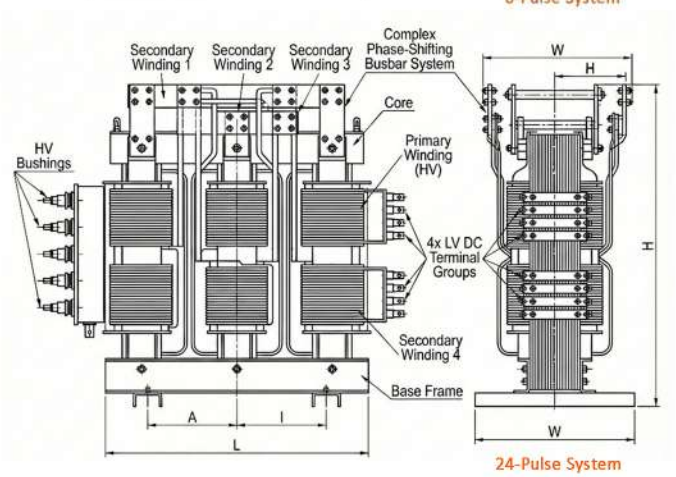
Green Hydrogen Solutions

Powering large-scale water electrolyzers for a zero-carbon future.

Outline Drawing



6-Pulse System



24-Pulse System

Accessories / Components

Smart Thermal Management

Oil-immersed Load Break Switch

High-Conductivity Busbars

Bay-O-Net Fuse Assembly

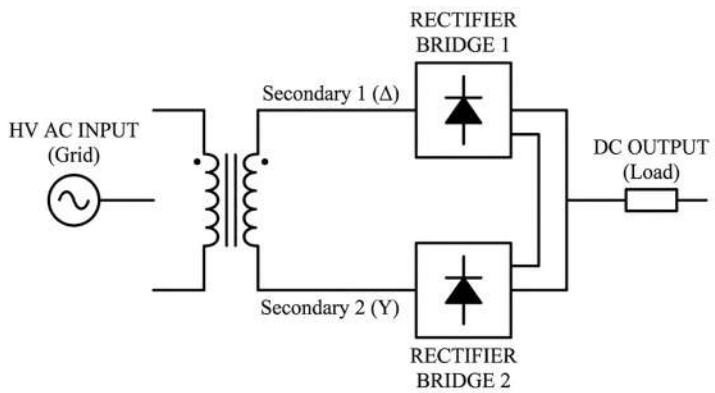
Protective Enclosures

Technical Parameters

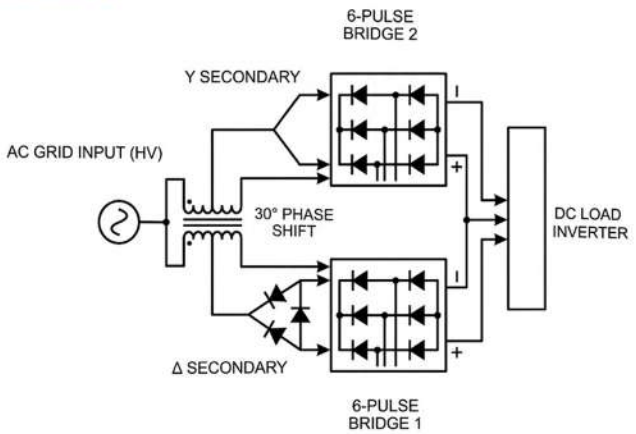
No.	Category	Pulse	Model & Capacity	No-load Loss (W)	Load Loss (W)	No-load Current (%)	Body Weight (kg)	Dimensions (mm)	HV (kV)	LV (kV)
1	Standard Series	6P	Z(B)S-120/0.38/0.46	340	1800	0.9	345	1220x650x1120	0.38	0.46
2	Standard Series	6P	Z(B)S-250/0.38/0.46	500	4450	0.9	900	1500x890x1300	0.38	0.46
3	Standard Series	6P	Z(B)S-400/0.38/0.46	680	5150	0.9	1100	1580x1010x1330	0.38	0.46
4	Standard Series	6P	Z(B)S-630/0.38/0.46	810	6200	0.6	1500	1820x980x1685	0.38	0.46
5	Standard Series	6P	Z(B)S-800/10/0.575	1280	10300	0.6	1550	1895x1110x1685	10	0.575
6	Phase-shifting	12P	ZSS-1000/10/0.66x2	1360	12000	0.6	1950	2080x1250x1960	10	0.66x2
7	Phase-shifting	12P	ZS-1250/10/0.575	1550	12600	0.6	2150	2100x1320x1980	10	0.575
8	Phase-shifting	12P	ZSS-1350/10/0.38x2	1760	15210	0.6	2450	2200x1360x2135	10	0.38x2
9	Phase-shifting	24P	ZS-2300/10/0.72	2310	21000	0.5	2745	2500x1420x2265	10	0.72
10	Phase-shifting	24P	ZSS-2500/10/0.575x2	2450	21300	0.5	3360	2570x1460x2300	10	0.575x2
11	Phase-shifting	24P	ZSS-3850/10/0.575x2	3750	34500	0.5	4600	2775x1650x2550	10	0.575x2
12	Phase-shifting	48P	ZSS-4500/10/0.575x2	4050	35500	0.5	5500	2800x2590x2570	10	0.575x2
13	Phase-shifting	48P	ZSS-9000/10/3.15x2	7500	52800	0.4	9000	3290x3220x3260	10	3.15x2

· Supports multi-pulse rectification and wide voltage regulation to precisely match your process needs.
· Manufactured strictly to IEC standards, providing flexible and customized power solutions.

Electric main wiring (Typical 12-Pulse Phase-shifting Configuration)



System Topology



Customizable topologies from 6-pulse to 48-pulse are available to suit specific industrial requirements.

Rectifier & Phase-shifting Transformer Series

Technical Excellence & Solution Architecture

1. Integrated Product Portfolio

· Our series seamlessly bridges the gap between cost-efficiency and high-end performance. By offering a unified range from Standard 6-pulse units for general industrial DC power to Advanced Phase-shifting configurations (12, 18, 24, 48-pulse), we provide the flexibility to match any technical blueprint or budget requirement without compromising on reliability.

2. Precision Harmonic Cancellation Logic

· Engineered specifically for non-linear loads, our phase-shifting technology cancels low-order harmonics (5th, 7th, 11th, 13th) directly at the source. This is achieved through high-precision secondary winding displacement angles, resulting in a cleaner sine wave, reduced Total Harmonic Distortion (THD), and significant protection for both the upstream grid and downstream sensitive electronics.

3. Premium Material Science & Thermal Managemen

· High-Conductivity Windings: We utilize 100% Oxygen-free Copper to minimize I^2R losses and withstand heavy current fluctuations in electrochemical and VFD applications.
· Superior Core Technology: High-permeability, cold-rolled grain-oriented silicon steel cores ensure low no-load losses and quiet operation even under maximum load.
· Smart Thermal Control: Integrated with advanced temperature sensors and cooling logic to ensure 24/7 continuous operation in harsh industrial environments.

4. Bespoke Engineering & Global Standards

· We don't just sell transformers; we design power units. Our engineering team provides full Parameter & Drawing Design Customization, ensuring that vector groups, impedance, and physical dimensions perfectly fit your existing cabinet or site layout. All products are manufactured in strict compliance with IEC 60076 and IEEE C57.18.10 standards to ensure global interoperability.