

Thyristor rectifier

EnerH2 thyristor rectifier

Industrial DC power supply for electrolyzers, designed around your project.

50–1200 V DC · up to 10 kA

6, 12 and 24 pulse

Designed and built in India



10 kA

DC current (up to 40 kA on request)

50–1200 V

DC voltage

>0.95

power factor at rated load

95 %

peak efficiency

Overview

The right DC supply for your electrolyser

As experts in DC power supply, we work with you to design and implement the ideal solution for your project, balancing efficiency, reliability and cost.

We offer containerised power supply systems with thyristor (SCR) and IGBT technologies for alkaline, PEM and SOEC electrolyzers, ideal where a small footprint and seamless site integration are critical. For smaller installations or flexible layouts, we provide standalone units engineered to your specifications, with complete project support.

Our solutions adapt to electrolyser ratings, hydrogen facility sizes and centralised or distributed production, powered by the grid or by renewables, supporting both power-to-gas and gas-to-power.



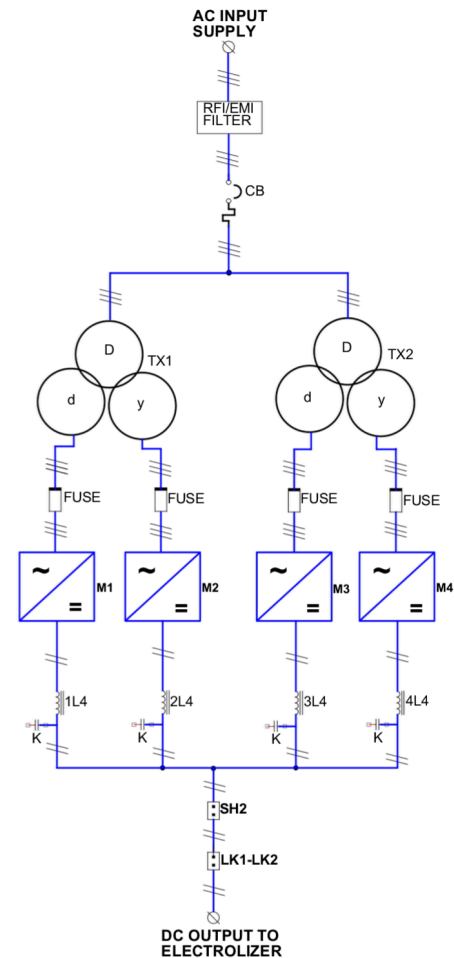
Two 558 kW containerised rectifiers, 3600 A / 155 V, forced air-cooled, outdoor container type, for a green hydrogen mobility pilot.

Features

- ✓ Designed for a wide input supply range, to withstand harsh weather
- ✓ No output power loss in heat or cold: outdoor units up to 50 °C, indoor units up to 45 °C
- ✓ Air-cooled or oil-cooled isolation transformers as required
- ✓ Guaranteed service life of 25 years, with local spares and service support
- ✓ Touchscreen with integrated PLC for fast response, remote operation and data logging
- ✓ Powers PEM and alkaline electrolyzers
- ✓ Forced air cooling removes the need for air conditioning (water cooling on request)
- ✓ High conversion efficiency through single conversion
- ✓ Proven in Indian and international naval dockyards for over 20 years
- ✓ Time-tested thyristor technology with 12/24-pulse designs, galvanically isolated transformers and special inter-phase transformers and filters for clean DC and good input harmonics and power factor

Technical specifications

	Value
Input	
Input AC voltage	0.4–35 kV
System transformer	Customised
Auxiliary input	230 V AC, 50/60 Hz
Power factor	>0.95 at rated load and nominal input
THDi	<5% at rated output with nominal input supply, as per IEEE 519-2022
Output	
DC voltage	50–1200 V DC
DC current	Up to 10 kA (higher currents up to 40 kA on request)
Efficiency (peak)	95%
Topology	6/12/24 pulse
Configuration	
AC input	From side or top
DC output	Bottom or top
Cooling type	Forced air (water cooling on request)
Environment and protection	
Design ambient temperature	5–50 °C dry heat
Humidity	35 °C at 95% RH (non-condensing)
Altitude	<1000 m above MSL
IP protection degree	Up to IP41
Controls and communication	
Digital voltage / current / power control	Yes / yes / yes
Communication (to customer requirements)	PROFINET, Modbus TCP/IP
Standards and certifications	
Conformity	EN 62477, EN 60146
EMC	EN 61000
Functional safety	Up to SIL3 to EN 61508



Single-line diagram: AC input, RFI/EMI filter and breaker, two transformers, four thyristor modules and DC output to the electrolyser.

Ways to supply

Containerised systems

Thyristor or IGBT power supplies in a container, for sites where footprint and fast integration matter.

Standalone units

Free-standing panels engineered to your specifications for smaller or flexible layouts.

Complete project support

From rating selection and transformer design to commissioning, with local spares and service.

About Statcon Energiaa

An Indian power electronics manufacturer serving solar, defence, power, railways and green hydrogen, designing and building equipment for static energy conversion since 1987, especially static converters and rectifiers.