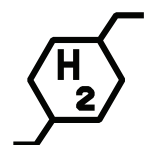


PRODUCT LEAFLET

Green Hydrogen protections

Circuit breakers and switch-disconnector for green H₂ production plants



Hydrogen is the most abundant element on earth and when it is burned there's no production of CO₂, instead water vapor is produced.

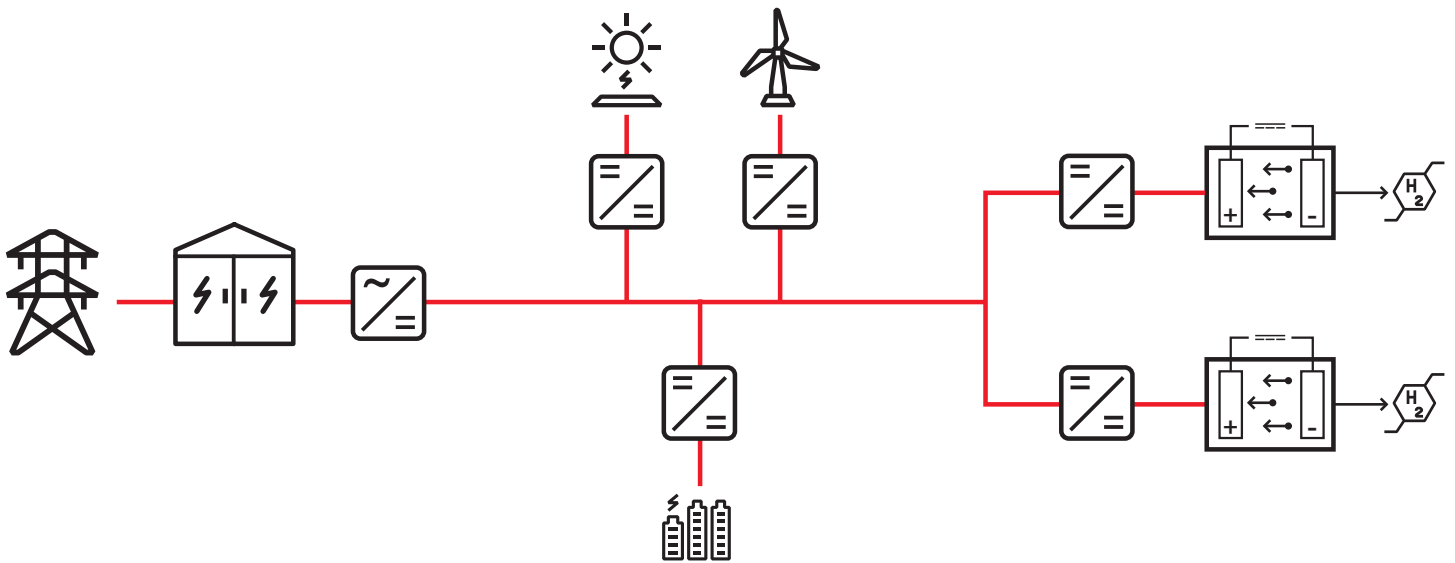
To obtain hydrogen, big amounts of electrical energy are required to power the electrolysis process, but when electricity produced by renewable energies, we obtain green hydrogen.

The value of the hydrogen sector in Europe today is estimated to be over €2 billion. By 2030 this is expected to grow to become €140 billion, and it is speculated that 140,000 jobs will be created in this sector. The reason that hydrogen will substitute other fuels is its contribution to decarbonization.

In the long term, it is inevitable that much of the growth in the hydrogen economy will be related to green hydrogen, and that is where electrolyzers play an essential role. Electrolyzers convert renewable electricity from wind, solar or hydroelectric power to green hydrogen.

In this document we present an overview of ABB low-voltage breakers to cover electrification needs in hydrogen generation.

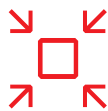
Power distribution to green hydrogen plant



The world of the renewable generation changes fast and major new trends such as energy efficiency, higher electrical rating and increasing complexity.

These trends lead to new applications and market requirements that ABB SACE low-voltage circuit breakers are able to satisfy with high quality, accuracy, and reliability.

High performances are always guaranteed by offering a unique user experience between molded case circuit breakers and air circuit breakers, from 160 to 6300A. SACE ACBs and MCCBs cover DC applications with a complete range of breaker-based switch-disconnectors and disconnectors up to 1500VDC.



Space saving

The SACE Emax 2 and Tmax XT are the most compact circuit breaker ranges on the market. Its compact dimensions allow the size of switchboard to be reduced by up to 30 percent, compared to a standard solution.



Energy efficiency

The SACE range of switch-disconnectors is here to support the energy efficiency trend in Renewable Energy generation. Achieving 1500V DC helps to cut power losses and make our planet a better place.



High performance

Offering MCCBs and ACBs able to reach 1500 VDC voltage with a 6000 A nominal current and 100 kA withstand current to provide solutions for increasingly demanding applications such as Green energy production.



Safety and control

Those products guarantee high electrical performance that last over the time. With a complete offer of accessories, it helps to monitor, command, and control the installation in any installation environment

Offering: DC switch-disconnectors

The SACE Emax 2 MS/DC-E DC-20 is the new disconnecter certified according to IEC 60947-3 to guarantee isolation up to 1500VDC with 100kA withstand current.

Thanks to internal connections between poles, the nominal current reach 6000A in a compact four-poles E4.2 frame (just 551 mm wide) helping to optimize installation space.

[Link](#)



Emax 2 switch-disconnector

SACE Emax 2 MS/DC-E is the new Air Switch-disconnector at 1500V DC, available with IEC, UL and CCC approvals with short-time withstand current (Icw) up to 100 kA.

System Voltage	Current ratings
up to 1500VDC	4000A

[Link](#)



SACE Tmax T

The SACE Tmax range of switch-disconnectors offers an increasingly comprehensive, leading-edge solution that anticipates the market trends.

System Voltage	Current ratings
up to 1500 VDC	1600 A

[Link](#)



Tmax T and Emax Breaker based switch-disconnectors

A based switch-disconnectors allows remote trip, remote operations and a full offers of accessories.

System Voltage	Current ratings
up to 1000 VDC	up to 6300 A

[Link](#)

[Link](#)



Tmax XT Breaker based switch-disconnectors

A based switch-disconnectors allows remote trip, remote operations and a full offers of accessories.

System Voltage	Current ratings
up to 750 VDC	up to 1600 A

[Link](#)

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