



Regulation and monitoring of electric heating industrial plants and energy sectors



CD Automation solutions
are used in the **renewable energy sector**,
such as **solar and wind power generation**,
biodiesel, ethanol, hydrogen and thermal energy storage



- Thermal Storage
- Production of photovoltaic panels
- Frost protection of wind turbines
- Energy management
- Hydrogen production
- Control of electric heaters
- Control of catalytic membrane reactors

Power Generation

Thermal Energy Storage





Wind energy is more efficient and more widely used than solar energy and can be defined as the kinetic energy produced by the movement of air over the earth's surface between areas of high and low pressure.

Frost protection

Wind power plants harness the power of the wind to turn turbines and generate electricity. However, low temperatures and ice build-up can damage the proper functioning of the turbines.

To prevent ice build-up or freezing on the blades or inside the wind turbines, several solutions can be adopted, including electric silicone laminate heaters, or heating the lubrication oils, which are essential to ensure proper turbine operation, using small immersion heaters.

CD Automation's thermal control technologies provide the means to ensure that wind turbines continue to operate at maximum efficiency despite extreme conditions.

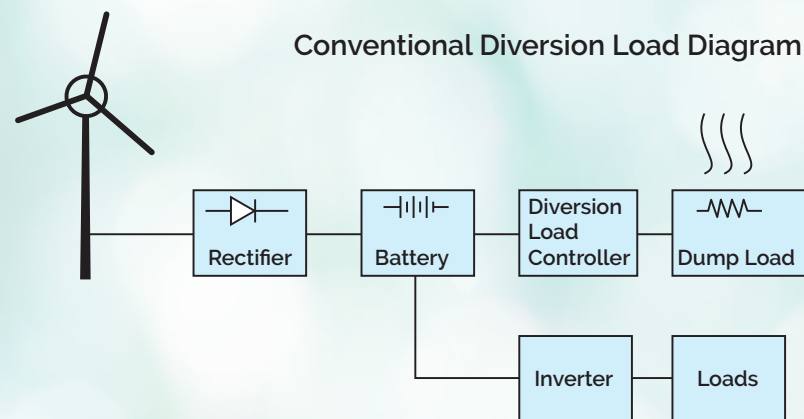
Wind Turbine Excess Energy Dump System

Under special conditions, such as strong gusts of wind, wind turbines can produce more energy than can be absorbed by the grid. To reduce power, the blades tilt, but this mechanical operation can take several seconds, during which time a solution is required to limit the excessive absorption.

With the help of CD Automation power controllers, the excess energy produced by the turbines can be stored in thermal storage systems.

Self-consumption

In industrial processes, the energy generated by wind turbines is converted into thermal energy (steam) that is used either in the industrial processes themselves or for space heating.



Thanks to CD Automation technologies, the energy produced by the turbines can be converted into thermal energy.

Solar Energy



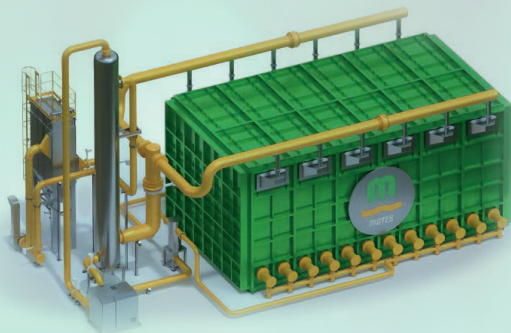
The benefits of solar installations are diverse and focus on the protection of our planet.

Production of photovoltaic panels

The production of photovoltaic panels requires high precision and quality during deposition, curing, drying and lamination.

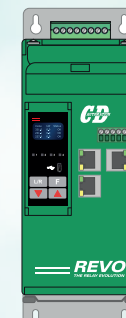
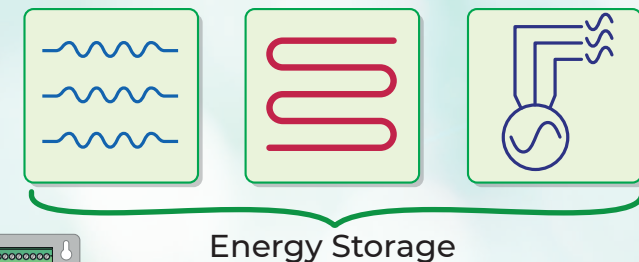
CD Automation's power controllers help manage these processes, which require precise control of the electrical heating.

Thermal Energy

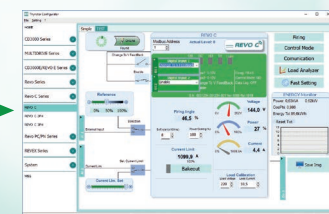


Energy storage systems based on fluidised sand bed technology allow excess energy from renewable sources to be stored and distributed on demand.

CD Automation offers solutions to optimise energy storage. The stabilisation of energy resources makes it possible to constantly meet energy requirements without straining the power grid.



Configurator
Data exchange



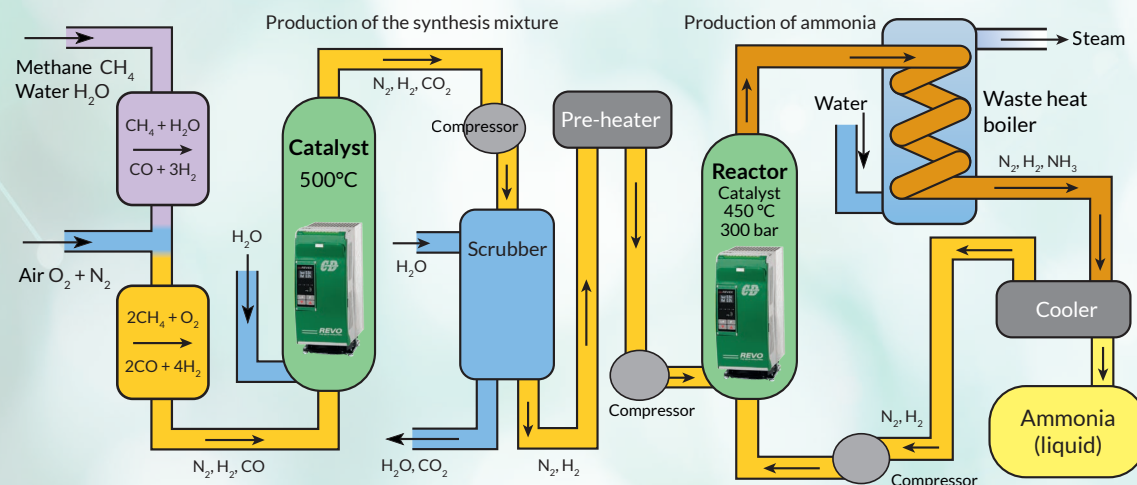


CD Automation offers a wide range of products for the control and operation of electric heaters, control of catalytic membrane reactors and process intensification in the field of hydrogen production.

Hydrogen is a versatile and clean fuel, the consumption of which in fuel cells results in the production of water only, making it an environmentally friendly choice.

It can be produced from various domestic resources, including natural gas, nuclear energy, biomass and renewable sources such as solar and wind power, making it suitable for a wide range of applications, from transport to electricity generation.

Hydrogen acts as an energy carrier, allowing energy generated from other sources to be stored, transported and delivered efficiently.



The most common methods of hydrogen production today include:

Natural gas reforming, which accounts for about 95% of hydrogen production, involves steam reforming in which steam reacts with hydrocarbons such as natural gas to produce hydrogen. Electrolysis takes place in an electrolyser, which works in reverse to a fuel cell, creating hydrogen from water molecules.

Solar energy-driven processes that use light as an agent to produce hydrogen, including photobiological, photoelectrochemical and solar thermochemical methods.

Biological processes using bacteria or microalgae to produce hydrogen through biological reactions, breaking down organic matter or using sunlight as an energy source.



Controllers, Drives & Automation



Products made in Italy

Worldwide distribution and service

CD Automation Country Locations



CD Automation, a leader in the control of heating elements, has been offering top quality solutions in the field of industrial temperature control for over thirty years. The company supplies thyristor power units and SCR power controllers, making it the leading partner in the industry.

CD Automation offers a support service for the development, optimisation, sustainability and energy efficiency of thermal processes, improving plant power quality.

Our team will be at your disposal to deepen, analyse and optimise your applications.

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