



SOLID STATE RELAYS APPLICATION EXAMPLES

CROUZET SOLID STATE RELAYS ARE BACK!



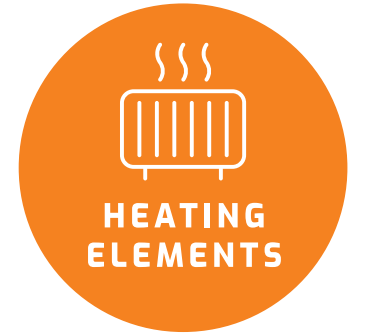


FOOD & BEVERAGE





Baking Ovens Temperature



**GNA, GNR &
GNR3 Series**

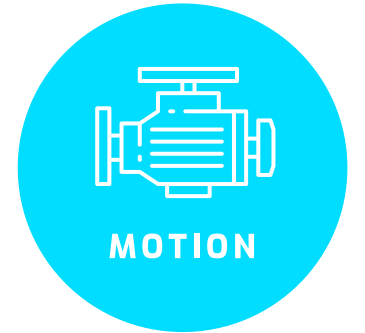
Application Description

Heating and pre-heating control is key on baking ovens, our single-phase and 3-phase SSRs provide accurate temperature control and a long-lasting guaranteed service.

An optional thermal pad helps to increase the lifetime of our panel mount relays.



Baking Ovens Air flow



GNRD-O
Series

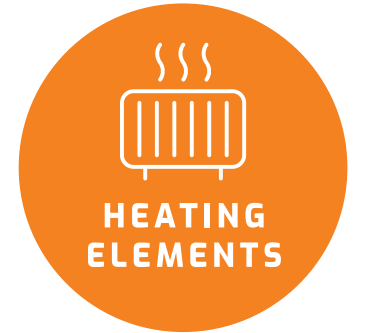
Application Description

When heating/pre-heating ovens, air must circulate throughout the oven in a very precise and controlled way.

Crouzet **GNRD-O** is the best solution to control the motor of the fan used for hot air circulation.



Combination Cooking Ovens



**GN & GN2
Series**

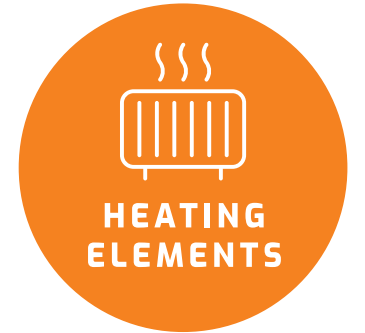
Application Description

Combination ovens, in addition to conventional "dry" cooking, also allows steam cooking, therefore, a control of the water heater for steam production is required.

This can be done with our classic **GN** series or the "2 in 1" **GN2** series, when panel space is limited.



Commercial Coffee Machines



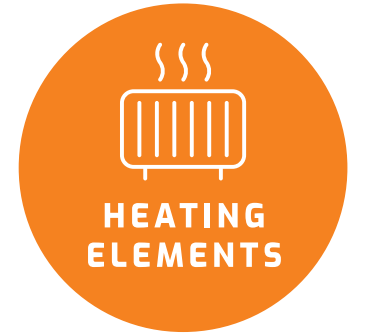
**GN, GN2F, GNZ
& GNmini**

Application Description

Commercial coffee machines require heated water to prepare the beverage, motors to grind coffee beans, and pumps to circulate fluids and dispense the coffee. Crouzet **GN** relays are ideal for these multiple tasks. When space is limited, we also have the 2-in-1 **GNF2** relays, the low profile **GNZ** in half the size and the miniature version **GNmini**.



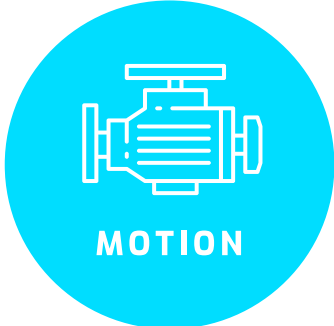
Deep Fryer Machine



GNR Series

Application Description

Cooking oil in deep fryers is heated and maintained at a high temperature (350-375°F / 175-190 °C). This equipment requires compact and easy-to-use high frequency switching SSRs to control heating of the system. These machines are a perfect application for Crouzet's **GNR** solid state relays.



Food Conveyors



GNO
Series

Application Description

The conveyor belt that transports the food is powered by a motion system that is frequently starting, stopping and changing directions.

Crouzet **GNO** relays are a reliable, high-performance solution for frequent start/stop/reverse operations of 3-phase motors.

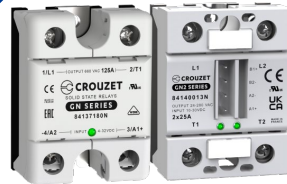
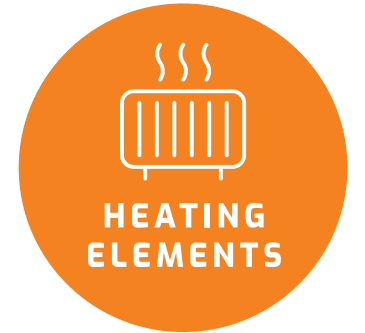


***PLASTICS AND
INDUSTRIAL***





Plastic Injection Barrel & Heaters

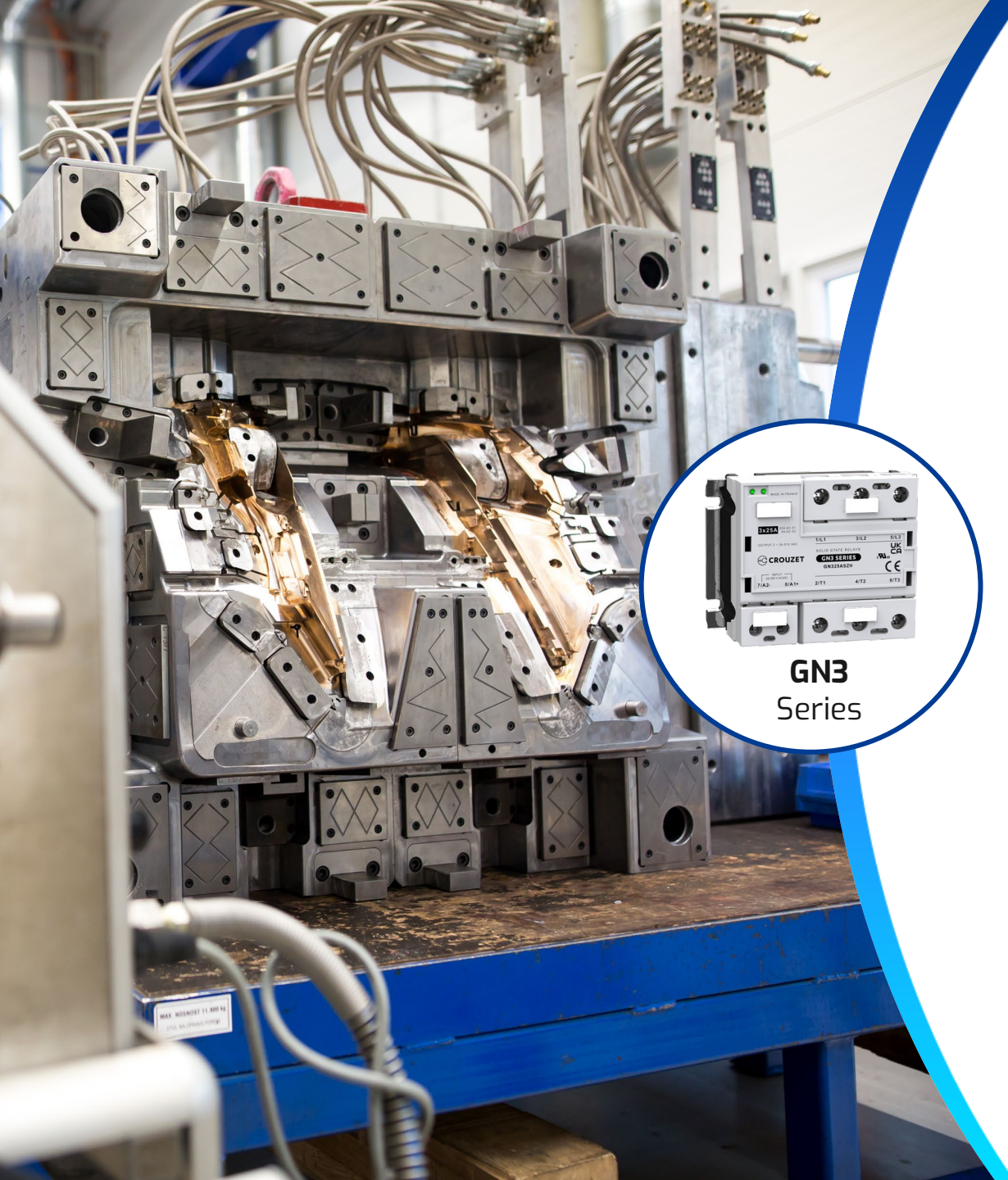


GN & GN2
Series

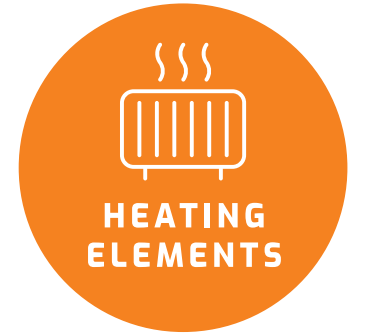
Application Description

An injection molding machine is divided into two major parts: the injection unit and the clamping unit.

With a long-life span, high reliability and high switching frequency, our **GN** and **GN2** relays are ideal to perform constant and rapid switching to the barrel and molding heaters, with to a precise temperature control.



Thermofforming machinery



GN3
Series

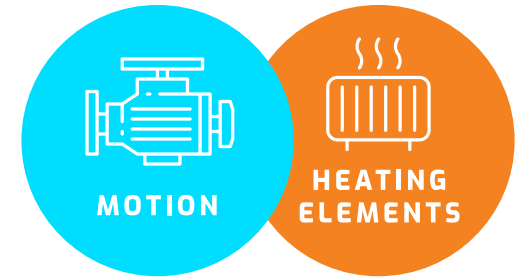
Application Description

When heating, pre-heating or just barrel-heating thermofforming machines, temperature must be managed carefully and precisely.

Crouzet **GN3** can pilot the heating system (based on a 3-phase resistive load) with precise temperature control and high reliability.



Pallet Wrapping Machine



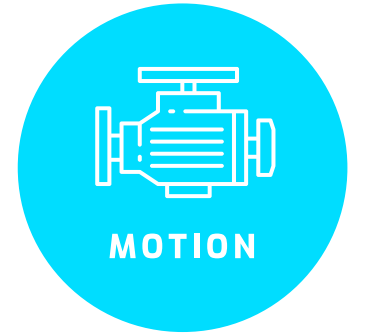
**GN & GNR
Series**

Application Description

Here, **GN** and **GNR** Solid State Relays are used to control heating elements and in the motion systems. Heat sealing of the plastic wrapping material is one application, while the other applications include rotating the conveyor motor, moving the film roller, and activating the film cutting station.



Baggage Handling Equipment

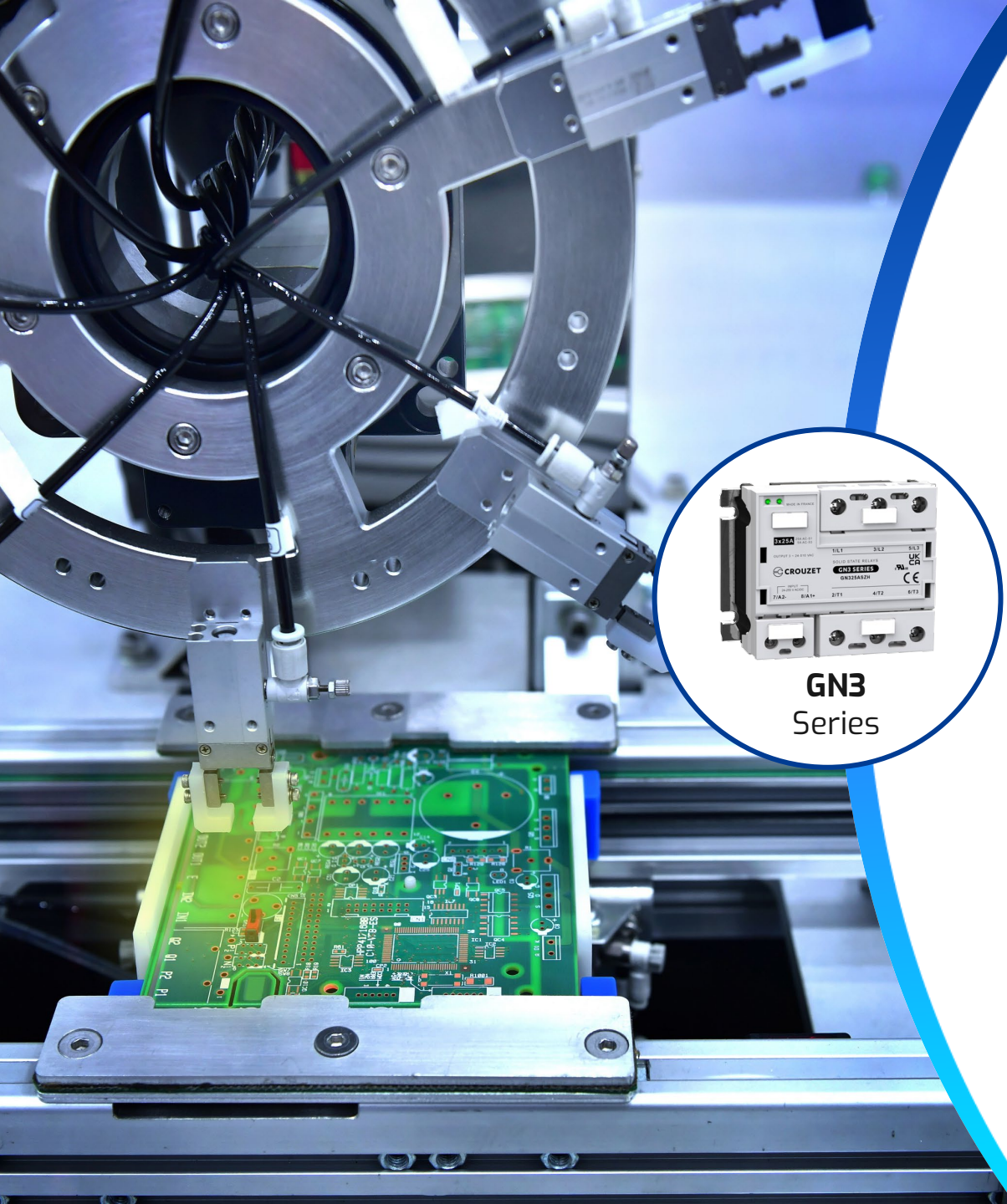


Application Description

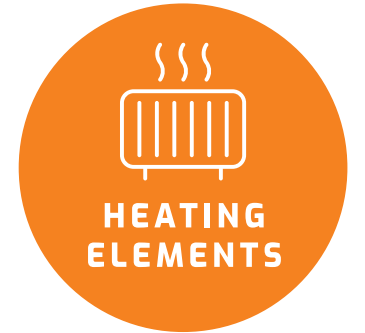
At the airport, in the baggage handling system, Crouzet **GN** SSRs are used to switch motors on or off, to control conveyors and baggage sorting gates.



GN Series



Soldering Reflow Ovens



GN3
Series

Application Description

Soldering components on PCB requires a highly-precise solder temperature. As it is a PID controlled process, Crouzet **GN3 SSR** are the best solution to pilot the heating system.



Warehouse Lighting Systems



GN Series

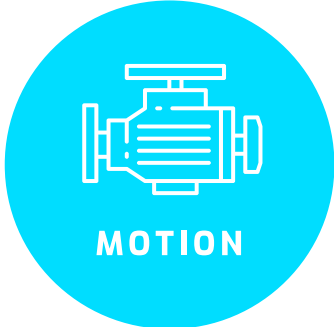
Application Description

Automatic lighting control is often used to save energy in commercial buildings. The use of Crouzet **GN** Series instantaneous switching relays increase bulb life and reduces power consumption, maximizing energy savings.



GNO
Series

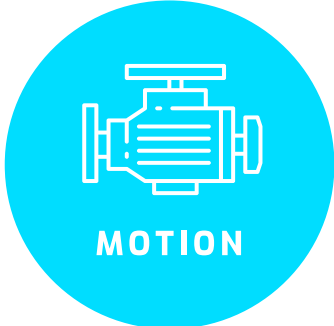
CNC Machine



Application Description

The SSR can control movement of the cutting tool / drill tool with high precision, reactivity and reliability

Both forward and backward motion is managed with a Crouzet **GNO** and its **reverse** function, without the need of complex cabling.



Conveyors



GN3
Series

Application Description

In various industries like mining or logistics for instance, large conveyors are often controlled by 3-phase motors. Crouzet **GN3** are used to control the conveyor with a high reliability of the system.

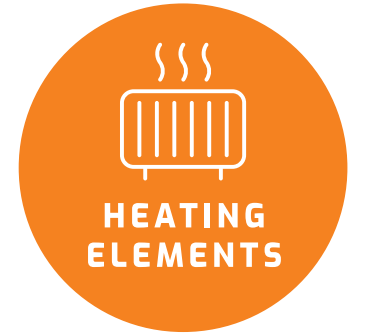


MEDICAL





Kidney Dialysis Machines



Application Description

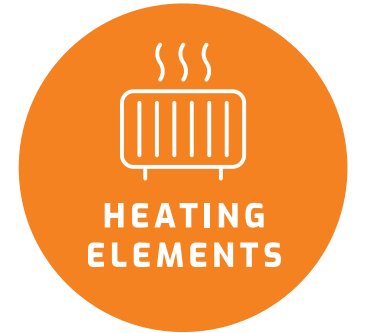
A dialysis machine mixes and monitors a dialysis solution that helps remove unwanted waste products from a patient's bloodstream. Crouzet's **GN** SSR precisely controls the temperature of the dialysis solution before it travels through the dialysis patient.

When space is limited, our **GN4** series with 4 relays in 1 single package, are a must-try option.

GN & GN4
Series



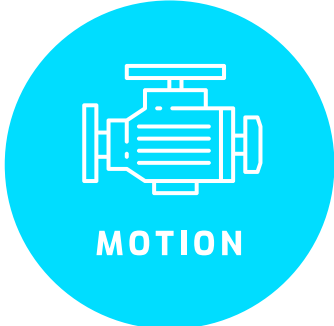
Autoclave Sterilization



GN Series

Application Description

An autoclave uses high temperature steam to sterilize surgical equipment, laboratory instruments, pharmaceutical items, and other material. The Crouzet **GN** series controls the heating elements that create the steam.

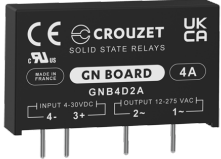


Dental Chairs

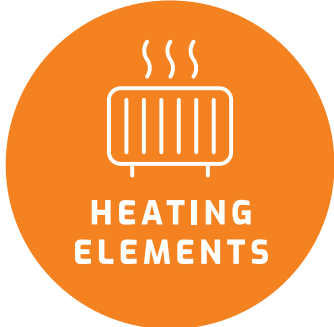
Application Description

Dental chairs require several motors to adjust the position of the seat. Those motors need to be carefully managed by a reliable and reactive solid state relay.

Our SIP shaped for PCB mounting **GNBoard** relays, are a perfect-fit solution.



GNBoard
Series



Baby Incubator



GN & GNBoard Series

Application Description

The incubator is a medical device which allows to reproduce the conditions of fetal development by controlling the temperature.

To ensure the safety of the babies as well as the durability of the machine, a heating resistance control is mandatory. Our **GN** and **GNBoard** series are often used for this application.



TRANSPORTATION





Multi-Level Dimming



Application Description

In a low-voltage lighting system, voltage drop is a problem for several reasons. Multi-level dimming is frequently used to reduce voltage drop. **GN** SSRs help to maintain a constant voltage, by switching one at a time to select the appropriate secondary tap.



Traffic Signal Control

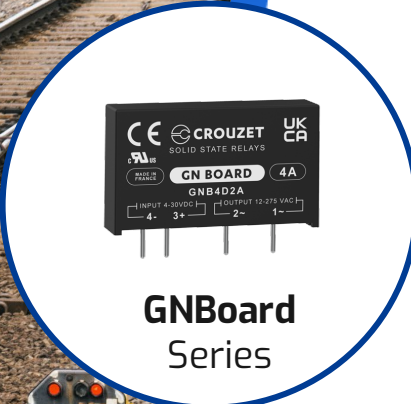


Application Description

Traffic signals are often managed by a logic system, controlling solid-state relays, mounted in a metal cabinet at the roadside. The **GN** SSR's resistance to vibration ensures total operating system reliability.



Railway Signal Control



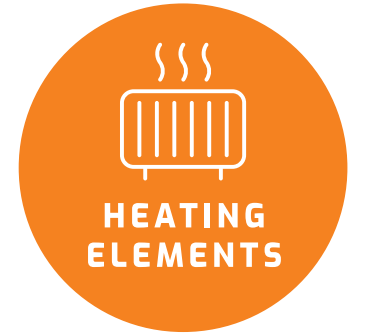
GNBoard
Series

Application Description

The **GNBoard** series can be used for any type of load and enables safe current switching in railway lighting systems.



Spray Booth/ Paint Dryers



GN3
Series

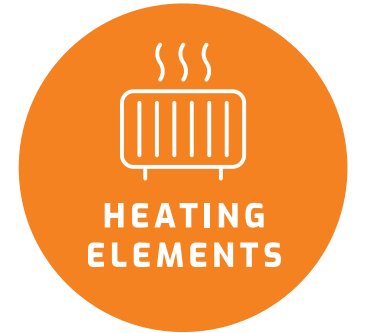
Application Description

The paint drying temperature in the spray booth needs to be carefully managed by controlling the heaters with a reliable and reactive 3-phase Solid State Relay.

Crouzet **GN3** Series is a perfect-fit solution.



Handicap Lift System



GND & GNBoard Series

Application Description

The lift systems for wheelchair users to get into a vehicle consist of a base on which the wheelchair is placed, an articulated arm and a hydraulic pump.

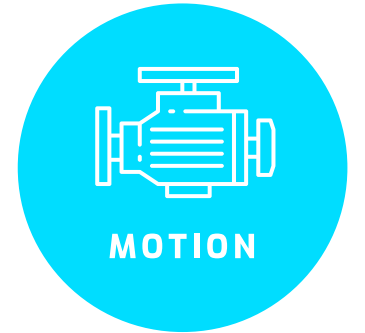
To lift or lower the base, the hydraulic pump is activated with a progressive start. For the safety of the person, the control of the pump must be fast and precise. Our **GND** and **GNBoard** series allow this thanks to their high switching frequency.



ENERGY



Solar Tracking System

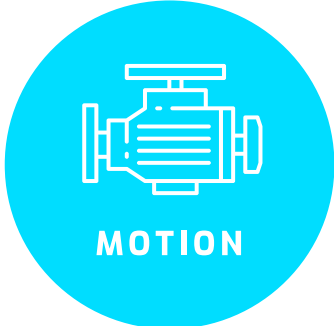


GNO
Series

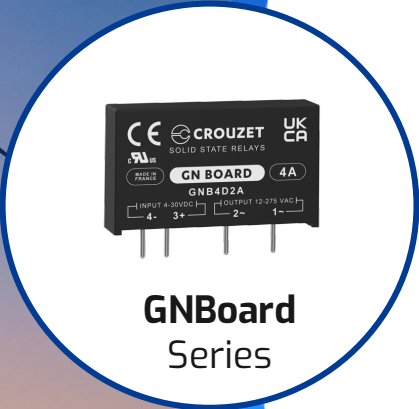
Application Description

Reversing the rotation's direction on a motor is one of the most common applications for SSRs, and since solar tracking systems need to come back to their original position at the end of each day, Crouzet **GNO reverser** will perfectly answer these needs.

They are reliable on the field during many years.



Wind Turbine

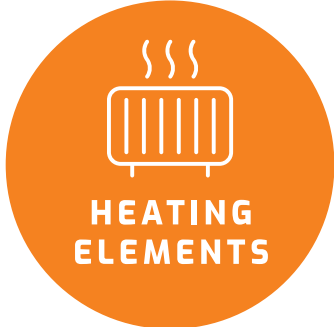
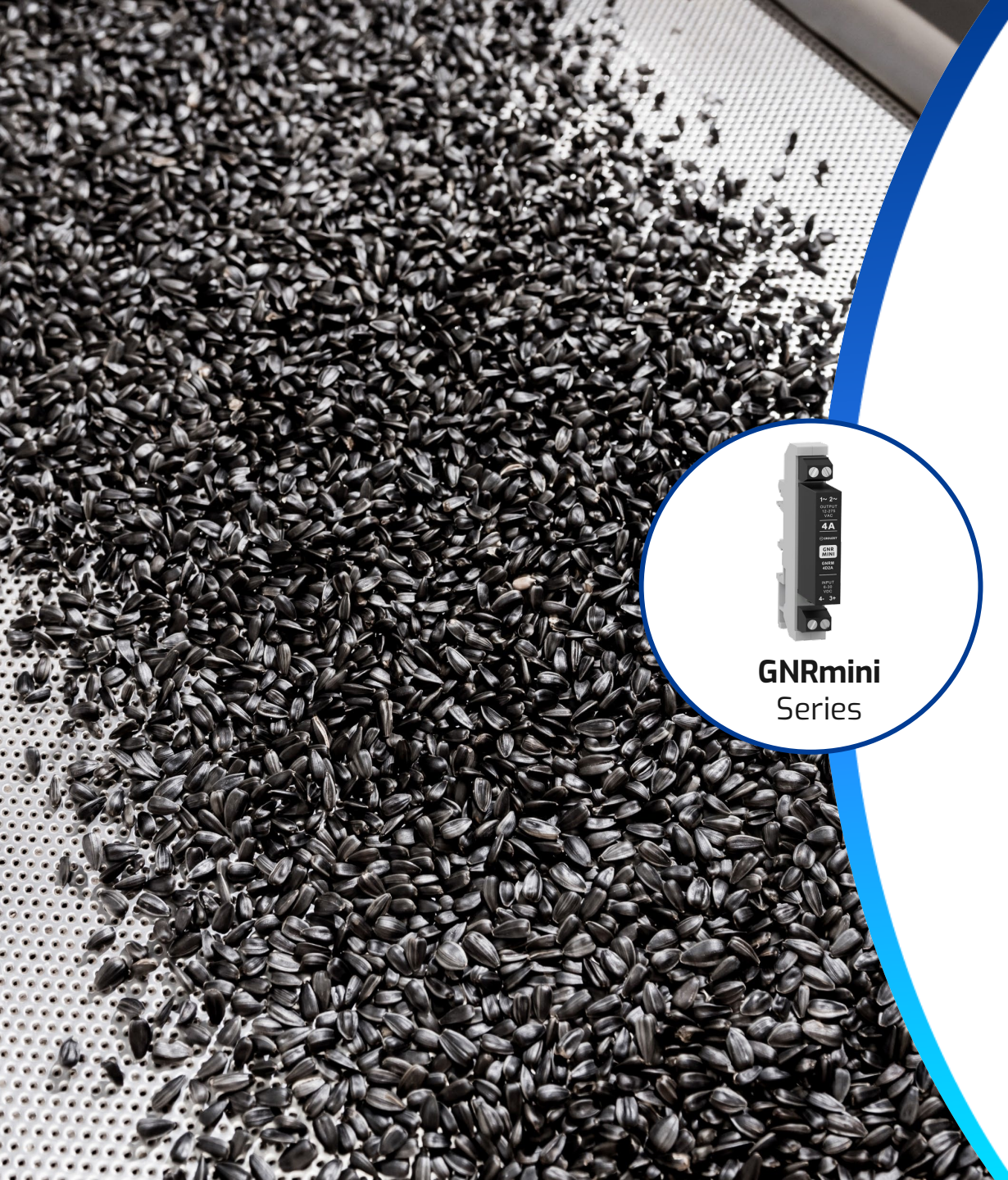


GNBoard
Series

Application Description

A wind turbine consists of a mast, a nacelle and a rotor. The nacelle is controlled by gears powered by about 10 motors to make sure the blades are always facing the wind.

To control these motors, our long-lasting **GNBoard** relays, are precise and reliable option.



Seeds Dryer



GNRmini
Series

Application Description

Industrial dryers are used to process seeds whose moisture content must be reduced. There are different models of dryers depending on the type of seed and the quantity to be dried.

The drying process requires a very precise temperature control and the space available on new generation dryers is limited, therefore, our **GNRmini** is ideal because it allows a precise and efficient temperature control while saving space.



SOLID STATE RELAYS SPECIALIST

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