

# ***AUTOMATION & CONTROL***

## *Overview*



# ABOUT CROUZET

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Crouzet is an independent company **manufacturing mechatronic components for demanding applications in Aerospace & Transportation, Energy, Building and Machinery Industry.**

Crouzet provides **Switches and Sensors, Electromechanical Actuators, Electrical Protection Equipment, Cockpit Controls, Automation Controllers and Relays, and Instrumentation Services.**

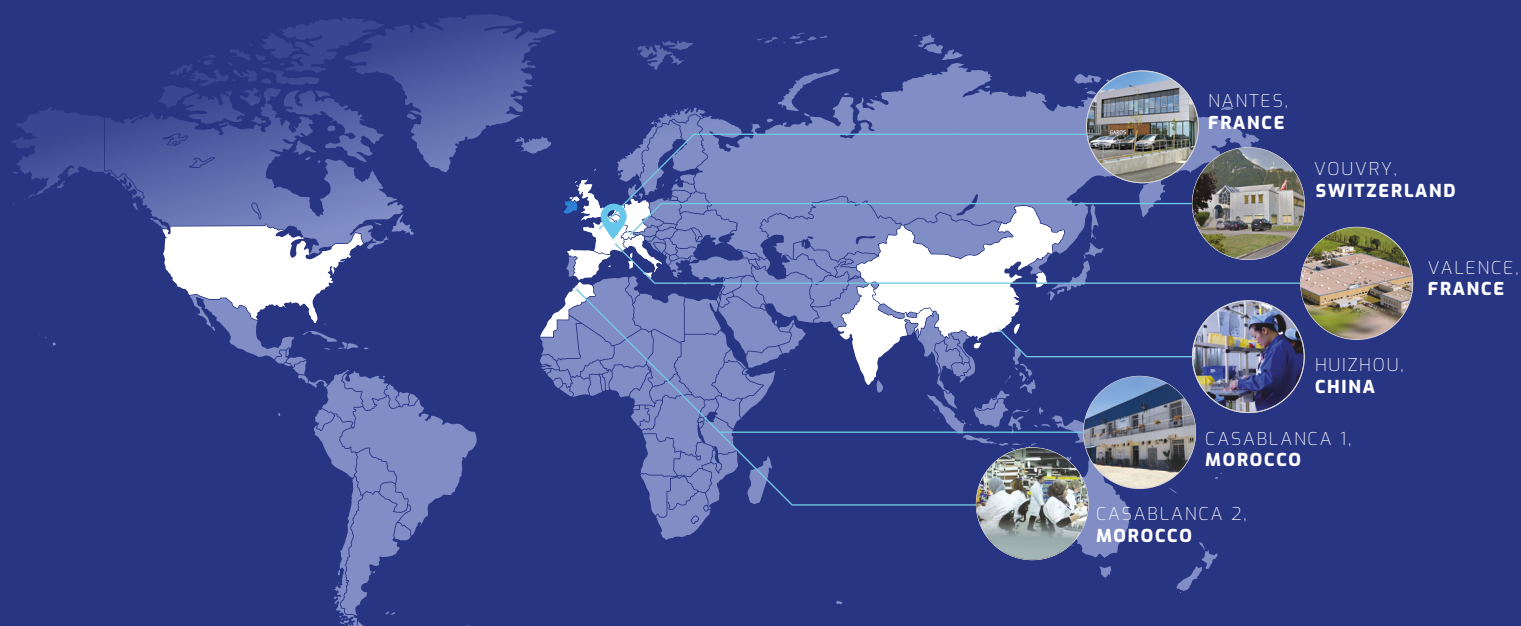
Since 1921, Crouzet has a heritage of close collaboration with customers in the development of products, from standard components to fully customized solutions.

Crouzet's customers and partners can rely on our teams worldwide to always meet and often exceed their expectations. Driven by innovation, our experts are focused on designing and delivering the right product for the right application.

Crouzet is your trusted partner of choice to face industrial challenges of today and tomorrow.

## WORLDWIDE PRESENCE

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📍 HEADQUARTERS

■ SALES OFFICES

## AUTOMATION CONTROLLERS

THE MILLENNIUM LOGIC CONTROLLERS

SPECIALIZED CONTROLLERS



NEW

### THE SMALLEST LOGIC CONTROLLER EVER!

Perfect for small-scale applications:

- › The only highly configurable and multipurpose industrial logic controller with a 17.5 mm (0.69") body
- › Fits in any control panel or machine and supports DIN rail and panel mounting
- › 8 highly configurable I/Os (analog, digital, high-speed, PWM). It can replace dozens of control panel products
- › Built-in Bluetooth communication to give wireless capabilities to your applications.
- › Easy program transfer at a distance

Millenium Slim



### THE CLASSIC LOGIC CONTROLLER

For everyone and for any simple application:

- › Many functions in a single product
- › Smart Design: Adapted for modular panels, can be DIN-rail mount or panel mount
- › Different input power versions (available)
- › Easy to use & free software
- › Expand up to 50 I/Os

Millenium 3



### THE COMMUNICATING LOGIC CONTROLLER

For all your simple applications with connectivity needs:

- › Control at a distance: Access to the front face from your PC, laptop, or mobile devices
- › Monitor your applications (Datalog, Events and FTP server connection)
- › Interact with other devices and program anywhere on your local network (via Ethernet or Modbus RTU)

Millenium Exo



### THE PLC MADE SIMPLE

PLC performance with logic controller simplicity, for your high-end applications:

- › 26 I/Os: Configurable inputs to digital, analog & high-speed. Relay, static and PWM outputs available
- › Network communication: Ethernet (Modbus TCP/IP), Modbus RTU and Bluetooth
- › The ease of use of a simple logic controller

em4 NANO PLC



### THE 5-IN-1 TELECONTROLLER

Control and monitor any application remotely with a cellular network:

- › Cellular Modem: Give cellular capabilities to your application
- › Alert system: Event alerts, status feedback and alarms wherever you are
- › Data logger: Measure and record key parameters
- › Nano-PLC: A PLC in a logic controller body
- › Display: Visualize and change parameters

em4 ALERT



## AUTOMATION CONTROLLERS SOFTWARE



### CROUZET SOFT

- › Easiest and most intuitive visual programming software
- › Pre-programmed application blocks like pump management, flow control, liquid level and many more



### VIRTUAL DISPLAY

Visualize and manage your controller at a distance:

- › View and change parameters
- › Read & write programs
- › Download Datalog
- › Firmware update



Download it for FREE! <https://www.crouzet.com/software/download>

## HMIS



### HMIs

- › 4.3", 7" and 10" sizes available
- › Several ways of communication: Ethernet, Modbus RTU, SLin/SLout
- › 2 versions available: High-Performance & Cost-Effective Essential



### HMI SOFTWARE

- › Easy-to-use graphic software & pre-configured communication drivers
- › Wide range of tools to develop the perfect project



## POWER SUPPLIES



### POWER SUPPLIES

- › Compact offer of 24 VDC DIN-Rail Power Supplies
- › 10 W, 30 W, 60 W, 100 W
- › Up to 90 % efficiency

## SENSORS & CONVERTERS



### TEMPERATURE & SIGNAL CONVERTER

- › Convert temperature (Pt 100, 1000, Thermocouple J & K), current and PWM signals to voltage for use with Crouzet's Controllers



### TEMPERATURE SENSORS

- › Air, duct, submersible and NTC Probes designed for simple & direct connection to Crouzet's Automation Controllers

## SOLID STATE RELAYS



NEW

### SINGLE-CHANNEL AC SINGLE-PHASE

Classic single relays available in multiple formats for any type of application

- › Panel Mount: Hockey-puck, Fast-on, Low-Profile and Mini-puck
- › DIN-rail Mount: 22.5 mm, 45 mm and 12 mm
- › PCB Mount: SIP



### MULTI-CHANNEL AC SINGLE-PHASE

2 or 4 relays in one single package for space-saving needs

- › Panel Mount: Hockey-puck and Fast-on



### LOAD DIAGNOSTICS AC SINGLE-PHASE

Single relays and add-on modules with load monitoring functions for heating systems

- › Panel Mount: Hockey-puck
- › DIN-rail Mount: Module



### CONTACTOR / REVERSER AC 3-PHASE

Solid-state contactors for 3-phase heaters and motors' control

- › Panel Mount: Contactor and Reverser
- › DIN-rail Mount: 90 mm Contactor



NEW

### DC OUTPUT

DC relays to control motors, lighting and other applications working on a DC power supply

- › Panel Mount: Hockey-puck
- › DIN-rail Mount: 12 mm and 58 mm Reverser contactor
- › PCB Mount: SIP



## TIMERS



### UNIVERSAL DIGITAL Syr-line

- › Super Multifunction with up to 138 operating functions
- › Universal connection
- › High-contrast LED screen
- › Precise time configuration
- › Limits and password settings
- › Program without power supply



### PLUG-IN Syr-line

- › Compact body with 8 or 11 pin connections
- › Easy and quick plug & play
- › Very large dial for an easy set up
- › Single or double output in the same package
- › Protective cover



### HIGH-POWER Syr-line

- › High-Power up to 16 Amps
- › Control more or bigger loads
- › Multi-function or Mono-function
- › Protective cover



### DIGITAL 48X48 Syr-line TMR48-D

- › Big digits in a large digital screen
- › Wide and long visibility
- › Large buttons for an easy and quick programing
- › Water & Dust proof IP66



### DOUBLE OUTPUT Syr-line

- › Double 8 Amps Output in the same 17.5 mm package
- › Second Relay can work instantaneously or delayed
- › **Special functions:** Alternator and Delayed Alternator



### ANALOG 48X48 TMR48

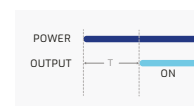
- › Large dial for an easy and quick programing
- › Multi-function or Mono-function
- › 8 or 11 pin connections
- › Multi-range from 0.02 s to 300 h



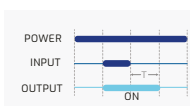
### CLASSIC Chronos 2

- › Multi-function or Mono-function
- › Multi-range
- › Multi-voltage
- › Screw or spring terminals

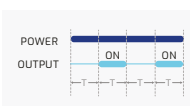
### LARGE CHOICE OF TIMING FUNCTIONS



**ON-DELAY**  
(DELAY-ON-MAKE)



**OFF-DELAY**  
(DELAY-ON-BREAK)



**REPEAT-CYCLE**  
(FLASHER)

+ All timing functions on the market available

## COUNTERS



### ELECTRONIC

- › Hour counting, Totalizing (impulse), Ratemeter, Chronometer, Batch counting and Preset functions
- › LED, LCD and backlight LCD
- › 24x48 and 48x48 mm sizes available



### ELECTROMECHANICAL

- › Hour counting and Totalizing (impulse) functions
- › Mechanical Dial visualization
- › 15x32, 24x48, 36x37, 36x48 and 48x48 sizes

## MONITORING RELAYS



### ELECTRICAL MONITORING Three-Phase

- › Protect AC motors, HVAC Systems, Pumps, Conveyors, Packaging Machines and other loads
- › **Monitor in 3-phase networks (120 to 480 VAC):** phase sequence, phase failure, imbalance (asymmetry), over and undervoltage



### CURRENT Single-Phase

- › Detect over and under current in a single-phase network
- › **Detection of 3 ranges:** 2-500 mA, 0.1-10 A and 2-20 A
- › **2 packages available:** 17.5 and 35 mm



### VOLTAGE Single-Phase

- › Detect over and undervoltage in a single-phase network
- › **Detection of range:** 0.2 to 600 VAC/DC
- › **2 packages available:** 17.5 and 35 mm



### LEVEL CONTROL Pump up or down

- › Pump-up (filling), Pump-down (emptying)
- › Control one or two levels
- › **Measuring ranges:** 5-100 kΩ, 250-1 MΩ



### PROBES Accessories

- › For use with level control relays
- › Electrode holder and protected suspension sensor

## PNEUMATICS



### LOGIC GATES

On Sub-base & Plug-in

- › **Functions:** OR, AND, YES (Buffer), NOT (Inverter)
- › **Operating pressure:** 2 to 8 bar
- › Blue, green, yellow, orange, light grey, dark grey product colors



### TIMERS

On Sub-base

- › **Functions:** positive, negative, impulse and frequency generator
- › **Timing range:** 0.1 to 60 s
- › **Frequency range:** 0.02 to 8 Hz
- › **Operating pressure:** 2 to 8 bar



### COUNTERS

- › Totalizing, Preset functions
- › 4, 5, 6 digits with or without reset
- › With or without pre-selection



### POSITION DETECTORS

- › Pressure decay sensor, low force position, microvalve, miniature, compact, adjustable stop versions
- › **Permissive Fluids:** Air, inert gas
- › Different plunger, lever, roller and rotary head options



### PRESSURE & VACUUM SWITCHES

- › Vacuum pressure switches with electrical output
- › Adjustable pressure switches with positive or negative output
- › Adjustable vacuum switches with pneumatics positive, negative or electrical output available





100+ years of customization,  
adaptation & co-design  
expertise at your service

DESIGN LAB

When your application requires more than one of our high-quality standard products, Crouzet's multidisciplinary team is ready to partner with you in the development of the best customized solution dedicated to your project.



High-quality and  
efficient manufacturing



Uncompromising and  
highest standards



## EXPERTISE AND TECHNOLOGY BEHIND EVERY PROJECT

OUR WIDE RANGE OF PRACTICAL AND EASY TO USE AUTOMATION AND CONTROL PRODUCTS ARE MANUFACTURED ACCORDING TO INTERNATIONAL AND ENVIRONMENTAL STANDARDS INCLUDING : UL, CSA, GL, CCC, TUV, CE, ROHS AND REACH.



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