

# MARINE APPLICATIONS

## Historical partner and proven expertise in naval vessels

**Crouzet Aerospace** has been producing **High Performance Components** for over forty years and has secured a leading role in three Product Lines dedicated to aerospace, marine and terrestrial applications: Detection, Protection and Man Machine Interface. To ensure the necessary quality, all Crouzet High Performance components are manufactured at facilities which are fully qualified to EN9100, ISO 9001 and ISO 14001 (all materials & processes are environmentally friendly).

### Electrical System

- Circuit Breaker,
- Circuit Breaker Panels,
- Solid State Power Controllers
- CDS
- Current sensors

### Man Machine Interface

- Weapon / Control Grips, Pushbuttons,
- Toggle / Rocker Switches, Thumbsticks,
- Foot Switch

### Detection and Sensing



### Electrical Protection



### Man Machine Interface



### Munition-Loading

- Micro Switches
- Limit Switches
- Proximity Switches

### Turret / Periscope

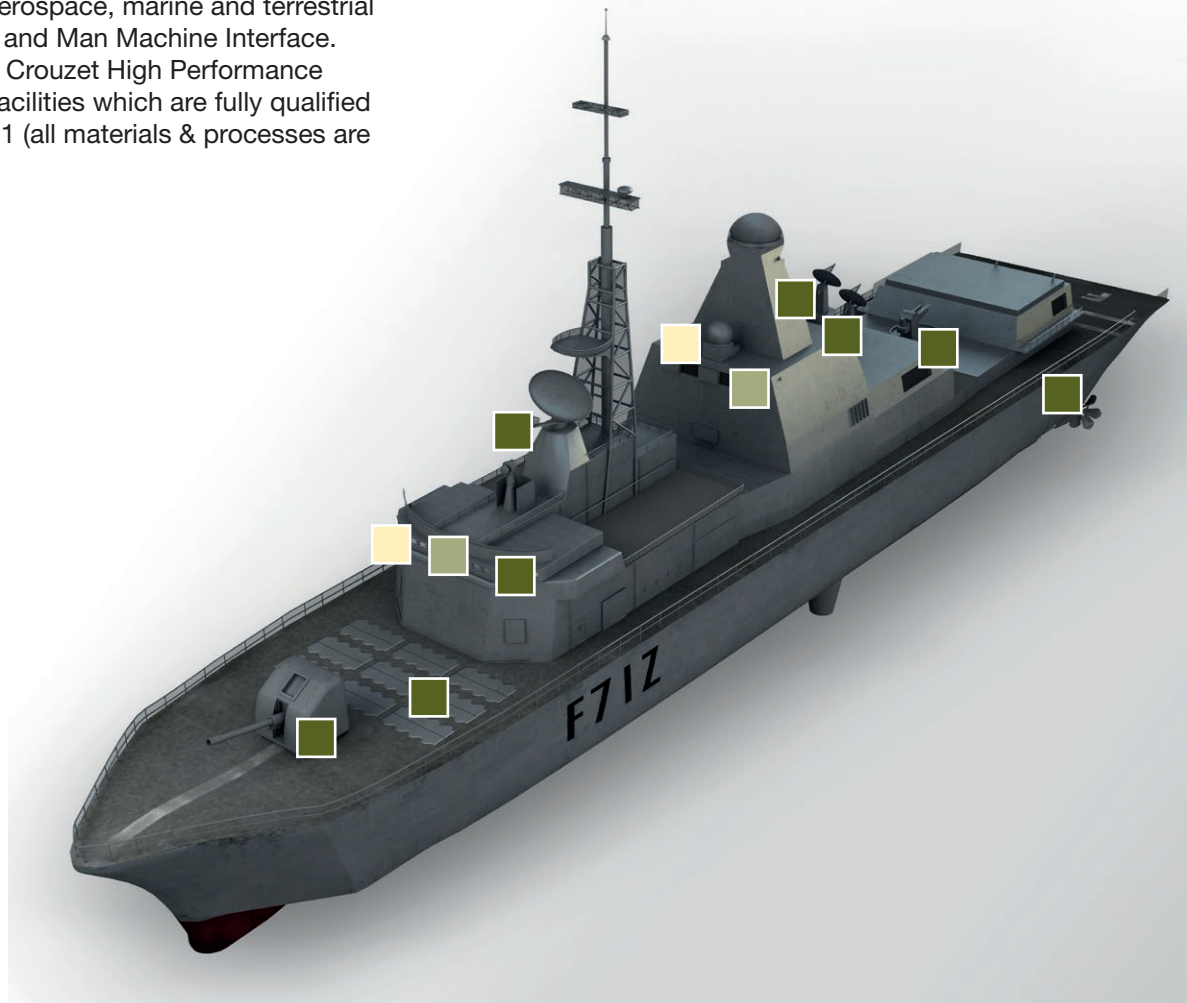
- Proximity Switches
- Limit Switches

### Locking Mechanism

- Proximity Switches
- Limit Switches

### Doors / Hatches

- Micro Switches
- Limit Switches
- Proximity Switches and Sensors



## Microswitches and Limit Switches:

- Standard microswitch or hermetic cells
- Special housings, shielded cable or connector output, multi-pole functions
- Multi-actuation systems: Plunger / Ball / Roller / Button
- High speed actuation (up to 1,35 m/s)
- High temperature devices (-55 → +250°C)
- Up to 100.000 cycles life time



## Proximity Switches:

- Contactless detection with integrated electronics
- 2, 3 wires or connector output
- Full hermetic stainless steel housing
- Possibility of multiple output, BIT, high pressure (310 Bar / 4500 PSI), extended temperature range, shielded cable...
- Detection up to 7 mm



## Proximity Sensors:

- Contactless detection based on a passive sensor combined to a remote electronic board.
- Product auto-calibrated (compensation of temperature, cable length, ...)
- Full hermetic stainless steel housing
- Detection up to 8 mm
- Possibility of health-monitoring



## New Proximity Switches / Sensors:

Very wide sensing range up to 40 mm, (much more accurate than Hall effect or other GMRs...)

- Detection through aluminum or non magnetic steel possible

### Requirements:

- Target has to be a permanent magnet.



## Electromechanical System:

- 1 pole or 3 poles thermal Circuit Breakers, with Auxiliary Contact, 0,5-50 A
- Push-Push / Push-Pull
- Standards: EN,MIL,MS,VG  
SIL on demand
- Different terminals
- Different colours
- Different button markings (0°-90°)



MS26574  
Frog legs

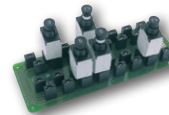


EN/MS3320



FASTON

- Circuit Breaker Panels (with contactors, relays, diodes)
- Circuit Breaker Panel kit (extra light & do-it-yourself technology), with plugin circuit breakers



### Accessories:

- Blocking Ring
- Protective Caps
- Illuminated panels

- SSPC: Solide State Power Controller
- Current sensor

## Protecting the Wires:

- Open on overload & short circuit
- Ground fault interrupter
- Trip free
- Fail safe
- Ensuring current flow and minimising voltage drops
- Remote information by auxiliary electrical contact
- Arcing protection

## Buttons:

- **Push buttons:**
  - 1 pole or 2 poles
  - Different colours
  - Waterproof
  - With protection guards...
- **Trim Switches:**
  - 2, 3 or 4 ways + validation
  - Waterproof
  - Different head shapes: convex, concave, rectangular, conic,...
  - 2 poles versions



- **Trigger Switches:**
  - 1-step/ 2step
  - With guard



- **Thumbstick:**
  - ARINC429
  - RS422
  - RS485



- **Rocker Switches:**
  - 3 or 5 momentary positions



## Weapon / Control Grips:

Based on aluminum castings or plastic versions:

- Different ergonomic shapes
- Dual CAN outputs
- Dual power supply
- Direct wiring for critical functions



Our technical team, using 3D tools, designs and develops your grip. A functional mockup delivered in a few weeks guarantees the success of your future programs.