



# CONTROL

ADVANCED ELECTRONIC CONTROL TECHNOLOGIES

**PNEUMATIC SYSTEM CONTROLLER**  
**MPACT-6000**



 **MAROTTA®**

*We're in Control*



## DC Brushless, Sensorless Motor Controller

The MCONTROL MPACT-6000 Controller has been selected by The Boeing Company for integration into its new P-8A Poseidon Multi-mission Maritime Aircraft. The system will provide up to 6000 psig of pure air which is the energy source for the ejection of the stores from the forward fuselage and from the wing pylons.

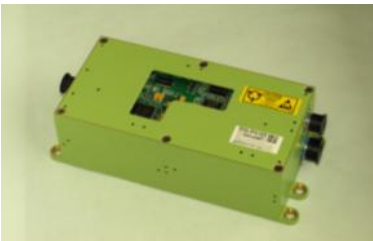
The MPACT-6000 Controller incorporates the latest technologies for temperature and pressure control with proven high-voltage motor drive and closed loop servo techniques. Designed specifically for this pneumatic weapon ejection

application's requirements, the MPACT-6000 Controller specifications provides higher motor power output, up to 580 VA.

The MPACT-6000 Controller design was engineered with extensive Built-in-Test and reporting capabilities, reducing its safety criticality. The ECU and pressure generation functions are powered by three-phase AC input mains converted to a stable 270 VDC bus via a passive EMI filter and rectifier. This power conditioning implementation is a highly efficient and low risk design that meets EMI and harmonics suppression requirements.

## Key Features

- DC Brushless motor control provides control for systems requiring fluid flow, pressure and temperature control.
- Variable speed, sensorless motor drive
- DSP servo control
- Proven, two-loop state-of-the-art all digital velocity servo control
- PID algorithms
- Vehicle control interface with analog, discrete or serial data signaling options.
- Built-in-test (BIT) diagnostics.
- Proven low power bias supply
- Current mode control for improved stability and regulation.
- Pulse Width Modulated PWM motor and heater drivers for optimum power conversion efficiency.
- State-of-the-art motor drive circuits using Isolated Gate Bipolar Transistors (IGBTs)
- Dual heater controls.
- Single solenoid valve control.
- Dual sensor interfaces for measuring pressure or other variables.
- Solenoid driver implements current limiting strategy for power savings.
- Virtually eliminates input line audio susceptibility
- Input power – 115 VAC with active power factor correction.
- Motor output power – up to 580 VA
- MISRA-C Software
- Hardware based overcurrent and overtemperature safety features
- CAN Bus
- 16 Channel, 12 bit ADC
- Weight – 7.2 lbs
- Size: 3.4" x 5.0" x 10.0"



*"More reliable than a "brushed" device, DC brushless accelerates faster, produces little acoustic noise and since there are no brushes to wear, there is no maintenance."*



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WHEN IT COMES TO  
ELECTRONIC CONTROL SYSTEMS  
WE'RE IN CONTROL