MAROTTA CONTROL

ADVANCED ELECTRONIC CONTROL TECHNOLOGIES

ELECTRONIC CONTROLLERS

for Critical Applications in Extreme Environments

Electronic Controllers

M-CONTROL Electronic Controllers provide control for systems requiring fluid pressure and flow control via pumps, fans and compressors. Marotta's controllers are qualified for use in air generation systems, compressor systems, thermal management systems,hydraulic systems and high-pressure pneumatic systems.

Pneumatic System Controllers

These controllers provide variable speed, sensorless compressor motor drive operation, Power Factor Correction to minimize current harmonics on the AC mains, over-current and over-temperature protection, as well as high motor power, all in a compact lightweight package. These controllers are suitable for control of air compression systems used in operations and processes as well as power source, requiring varying pressure and degrees of filtration.

Hydraulic System Controllers

These controllers provide closed loop control of hydraulic actuators and proportional control solenoid valves, including dual redundant input power sources, emergency electrical as well as manual override, system fault monitoring and status indication. These controllers are suitable for control of hydraulic actuators on rudder, bow and stern planes as well as anchor winches in naval applications, and for maintenance doors, motor driven pumps and fans in aerospace applications.

- Digital Servo Control
- Variable Speed
- Sensorless Motor Operation
- PID Algorithms
- Thermal Management
- Analog/Discrete or Serial Control Interface
- Power Factor Correction for AC Input Systems
- Built-in-Test Diagnostics
- Solenoid Valve Controls
- Sensor and Vehicle Control Interfaces
- Built-in Low Voltage Power Supply
- PWM Motor Driver Amplifier
- Input Power—270 VDC or Single and Multi-phase 115 VAC
- Output Power—290w to 7kw
- MIL-STD-461E/F
- MIL-STD-810
- MIL-STD-704E/F

Pneumatic Weapon Ejection System Control

Airborne Compression System Control

M-CONTROL for Pneumatic Weapon Ejection

Selected by Boeing for use in the P-8A Poseidon for weapon ejection, this controller has motor drive output to 800 VA, and was engineered with extensive Built-in-Test and digital CANBus communications. Uses three-phase AC input power.

M-CONTROL for Airborne Compression

Selected to control the rotary reloadable pneumatic sonobuoy launch compressor on the P-8A, this unit provides superior power handling abilities, efficient AC/DC conversion and digital power control for optimum power management. Operates up to 3,000 VA.

Minimal Risk, Rapid Development

M-CONTROL Platform

We create complex controller applications from our standard M-CONTROL design platform. Complex functions are implemented using proven stable hardware and software components of the M-CONTROL platform, which are linked through a solid framework to specify and execute different tasks. This approach ensures each individual function can be easily developed, integrated and tested.

Digital Technology

Digital technology is used for precise, repeatable control and ease of tailoring for each application's load type and exact dynamic response. Our systems provide the capability of highly complex control transfer functions with human machine interfaces, BIT functions, data bus interfaces, and autonomous communication with other controllers for distributed control functions.

Building Blocks for Success

Electronic Control Units

Our ECUs incorporate the latest technologies for temperature and pressure control as well as proven high-voltage motor drive with closed loop servo techniques to meet exacting control requirements. Our qualified, compact designs have flexible input power and various connectivity options, and can be designed to meet any application need.

Software Development

Our software development process is based on the IEEE/EIA 12207 Standard for Information Technology Software Life Cycle Process. We practice defensive programming which allows us to participate in programs that require a rigorous software development process.

Environmental
System Control

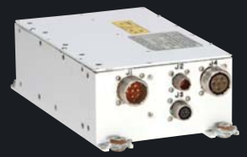
Multiple Valve
System Control

M-CONTROL for Space Systems

Selected for use in the International Space Station, this fully integrated DC brushless stepper/harmonic system is used on the Active Thermal Control System. Powered from an external 28 volt DC source with peak draw less than 1 amp.

M-CONTROL for Naval Ship Systems

Selected for use in an advanced naval sub-sea vehicle, this multi-channel controller commands a series of valves for closed-loop control of hydraulic actuators on rudder, bow and stern planes as well as anchor winches.



Hydraulic Pump
Motor Control

PAO Pump
Motor Control

M-CONTROL for Aircraft Hydraulic Systems

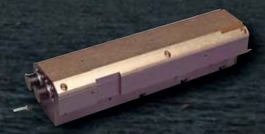
Selected for use in each of the three variants of the F-35, this safety critical model controls a hydraulic pump to actuate doors and hatches during maintenance mode, as well as to provide backup hydraulics during engine flame-out.

M-CONTROL for Aircraft Pneumatic Systems

Marotta has designed and developed this dual-channel controller used to control two PAO pumps for ECS and APU avionics. This design uses a liquid-loop cold plate which provides performance advantages over air-cooled solutions.

Your Mission – Made Easier

Our engineers have designed, developed, manufactured and qualified systems for the US Air Force, US Naval Air Systems Command, US Navy and NASA as well as a variety of tier-one suppliers to domestic and international programs.



IR Missile Seeker
Cooling System Control

M-CONTROL for IR Missile Seeker Cooling

Selected by NAVAIR for use in the LAU-7/127 launchers for the F/A-18A/F, AH-1W, and AV-8B, this model controls the high-pressure pure air generating system which provides cooling for infrared missiles. Its DC brushless, sensorless variable speed motor drive operation reduces cost and weight while increasing reliability.

Custom Solutions for Unique Applications

Our control solutions are designed to meet your application requirements. Our proven design process can produce a wide range of controllers for unique applications with minimal risk, rapid development, and in a cost effective manner.

Complete System Integration

Our experience as an integrator allows us to provide a complete electronic control system for our customers on critical timelines who require a control solution packaged with a mechanical system.

Mission Success

M-CONTROL electronic control systems have been selected for some of the world's most advanced aerospace, space, military aerospace and naval systems. They are chosen for their compact size and weight, high output power capability, proven performance in extreme environmental conditions, and rapid development times.

- F-35 Lightning II
- P-8A Poseidon
- F/A-18 Hornet
- AH-1W Cobra
- AV-8B Harrier
- International Space Station
- Advanced Seal Delivery System
- Small Diameter Bomb
- AIM-9M Sidewinder
- Joint Air-to-Ground Missile

We're In Control

Marotta is an agile partner to many of the world's finest companies. We are well-staffed with robust capabilities, yet right-sized to be responsive to our customers' demanding timelines. Our track record speaks for itself.

If you require a proven partner to design, develop and manufacture an electronic control unit or system, call us today to discuss your application in confidence.

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