

Fully Digital, Microcomputer-based design

- Multiple operating mode
- Fully programmable using switches and 7 segment display or through connection to a PC
- Non-volatile storage of user configurable settings. No jumpers needed
- Simple operation
- Software upgradable with new feature

Multiple advanced motor control modes

- Independent channel operation
- or mixed control (sum & difference) for tank-like steering
- Open Loop or Closed Loop Speed mode
- Position control mode for building high power position servos
- Modes can be set independently for each channel

Multiple command modes

- Radio-Control Pulse-Width input
- Serial port (RS-232) input
- Analog Voltage input

Automatic Joystick command corrections

- Joystick min, max and center calibration
- Selectable deadband width
- Selectable exponentiation factors for each joystick
- 3rd R/C channel input for weapon and accessory output activation

High efficiency Motor Power outputs

- Two independent power output stages
- Dual H bridge for full forward/reverse operation
- Ultra-efficient 3 mOhm ON resistance (RDSon) MOSFET transistors
- 12 to 40 V operation (voltage may be different for each motor)
- SmartPower Automatic current limitation
 - 120A up to 15 seconds (per channel)
 - 100A up to 30 seconds
 - 80A continuous
- High current 8 AWG cable sets for each power stages
- 250A peak Amps per channel
- 16 kHz Pulse Width Modulation (PWM) output
- Heat sink extruded case

Special function inputs/outputs

- 2 Analog inputs. May be used as
 - Tachometer inputs for closed loop speed control
 - Potentiometer input feedback for position (servo mode)
 - Motor temperature sensor inputs
 - User defined purpose (RS232 mode only)
- One Switch input configurable as
 - Emergency stop command
 - Reversing commands when running vehicle inverted
- Up to 2 general purpose for accessories or weapon
 - One 24V, 2A output for accessories
 - One low-level digital output for accessories
- Up to 2 digital input signals

Advanced safety features

- Safe power on mode
- Optical isolation on R/C control inputs
- Automatic Power stage off in case of electrically or software induced program failure
- Watchdog for automatic motor shutdown in case of command loss (R/C and RS232 modes)
- Visible run and failure diagnostics on 7 segment LED display
- Current limited output with programmable limit value
- Built-in overheat sensor
- Motor temperature sensing and protection
- Emergency Stop input signal and button

Low Power Consumption

- 12V at 150mA controller power supply
- No power consumed by output stage when motors are stopped
- Regulated 5V output for powering R/C radio. Eliminates the need for separate R/C battery

Sturdy and compact mechanical design

- Built from Aluminum heat sink extrusion with mounting brackets
- Efficient heat sinking. Operates without a fan in most applications.
- 7" (178mm) long by 5.5" wide (140mm) by 1.8" (40mm) high
- -20o to +70o C operating environment
- 2 lbs (900g)