



Rayon-EV

Advanced Power Saving, EV Dual - Motor Controller Driver

Patent proof Controller – saves up to 25% battery power

Save your customer's Energy

Advantages:

- Increase vehicle/machine/robot uptime
- Reduces battery replacement and maintenance
- Allows your end customer a better work flow
- Multi-axis version is available



Typical Applications:

- Automotive - Two motors application, with motors and sensors synchronization.
- Avionics — Heavy duty drones, Multi axis motors, variety of mission profiles.
- Industrial — For high torque BLDC motors, with high accuracy, CNC motors, multi axis machines
- Military — Land, Air, Maritime pedestals, cranes, Unattended vehicles
- Robotics — High power, varied voltage, Mobile Robots
- Synchronized, Sinusoidal, flux oriented control
- Hall, Digital SSI. Incremental encoder feedback
- PID closed loop modes: Position, speed, current and stepper
- Esafe – Eeprom file system management.
- 2X 250A continuous current. (30 sec 2X 500A over drive). @ 80Volts
- 24 VDC up to 72 VDC
- Communication: CAN BUS, Ethernet, RS422-485 and RS232 - Adjustable for other protocols
- Analog and / or digital commands
- Proprietary ripple reduced operation mode
- Load/Read parameters and high speed live graph monitor
- Protections: Temperature, voltage, CPU, encoders, hall, motor stuck more
- Comprehensive Error messages
- Hardware short motor winding protection
- 2 encoders input with automatically switchover
- Operating temperature -40°C to 71°C. (extended 55°C-85°C)
- 2 X 3 Phase

Specifications:

Function	Parameter	Remarks
CPU and Memory		
CORE Motors Controllers	STM32F407ZGT7 2X TI- TMS320F-28069	32 bits Processor
Flash	ARM 512 Kbytes	Motor DSP 2X 256Kbytes
RAM	100 Kbytes	Motor DSP 2X 96Kbytes
CORE Speed	170Mhz	Motor DSP 90Mhz
Motor Interface		
BLDC 3 phases Bridge Drivers	18 200V@130A	FOC
Bridge Drivers	IRS21834S	1.4A turn on 1.8A turn off
Motor Current	150A Continues per motor	Need suitable heat sink
Hall angle inputs	60°	Open collector/Drain
Output hall devices power	5VDC	@200mA
Encoder Interface-A	SSI or SPI	SDI SDO SCLK
Encoder Interface-B	Digital RS422	CLK A CLK B Index
Motor Current Sense measurement	2 Channels	0-3V 12bits resolution
Adjustable Motor Current limiter	2 Channels	One Over load Point.
General Purpose Interface		
Digital Input / Output	4 Inputs 2 Output Channels	
Analog input (analog command)	1 Channel	±10V / ±5V /0-10V
Communication Interface		
CAN BUS	Single CANopen	CAN 2.0B 1Mbit/Sec
UART	1 Channels	RS232 or RS422 comm.
Ethernet	1 Channel 10/100	LAN
Power Supply		
Operating Voltage	16-380V	
Control Voltage	12V to 48V	
Quiescent Current	200mA @24V	Cores @ 90Mhz
Environment		
Operating Temperature	-40°c +71°c	Optional -55°c to +85°c
Storage Temperature	-65°c - +150°c	
I/O Connection		
Power Input and Phase output	BUSBAR	6X100A 2X200A @85°c
Communication	26 PIN DB-HD Female	
Dimension	360X264X64 mm	



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