

**REDLER**  
Technologies

The Heart of Power and Motion

## Micro Rayon

### Miniature DC/BLDC motor controller driver - 12.5A

Catalog number – RD000125(RS232)/RD000135(RS422)

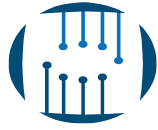
#### Specifications:

- Sinusoidal, flux-oriented control and trapezoid drive.
- Hall, Digital SSI. Incremental encoder feedback.
- PID closed loop modes: Position, speed, current and stepper.
- 12.5A continues current –RMS
- 10 sec 25A over drive
  - Communication: available in RS-232 or RS422 version (up to 960kbps)
- Analog and / or digital commands.
- Firmware upgrade via RS232.
- MMI – Load/Read parameters and high-speed live graph monitor.
- Protections: Temperature, voltage, CPU, encoders, hall, motor stuck more.
- Comprehensive Error messages.
- 4 digital input. 2 digital outputs.
- Reliable: rigid construction high current 92A 100V Power MOSFETs,
- Hardware short motor winding protection.
- Operating temperature -40°C to 71°C
- SMD board mount
- Efficiency - 97%
- Weight – 8g



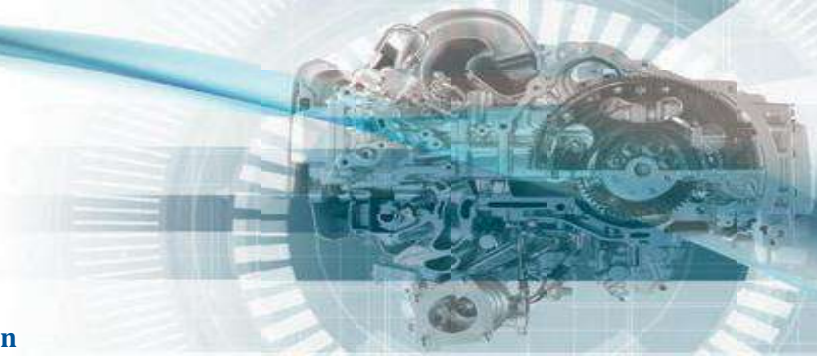
#### Typical Rayon module 12.5A:

- Robotics.
- Automotive.
- Avionics.
- Industrial.



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## Specifications:

Function	Parameter	Remarks
<b>CPU and Memory</b>		
CORE	TI- TMS320F-28035	32bits DSP
Flash	128 Kbytes	
RAM	20 Kbytes	
CORE Speed	60Mhz	
<b>Motor Interface</b>		
BLDC 3 phases Bridge Drivers	6 100V@92A	FOC
Bridge Drivers	DRV8301DCAR	1A turn on 1.2A turn off
Motor Current	12.5A Continues	
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 RS232 OR 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.
<b>General Purpose Interface</b>		
Digital Input / Output	4 Inputs 2 Output Channels	
Analog input (analog command)	1 Channel	±10V / ±5V /0-10V
<b>Communication Interface</b>		
CAN BUS	Single CAN channel	CAN 2.0B 1Mbit/Sec
UART	1 Channels	RS232 or RS422 comm.
<b>Power Supply</b>		
Operating Voltage	8-48V	
Control Voltage	8V to 48V	
Quiescent Current	45mA @24V	Core @ 60Mhz.
<b>Environment</b>		
Operating Temperature	-40°c +71°c	
Storage Temperature	-65°c - +150°c	
<b>I/O Connection</b>		
Power Input and Phase output	SMT layout	
Power Input and Phase output –OEM	SMT layout	
Signals Input and Digital I/O	SMT layout	
Dimension	30.4mm X 25mm X 9.07 mm	

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