



REDLER
Technologies

The Heart of Power and Motion

Rayon 300 motor controller driver - DataSheet

Catalog number – RD000127

Specifications:

- Galvanically isolated power stage from 12V to 48VDC.
- High power Sinusoidal, flux-oriented control.
- Hall, Digital SSI. Sin Cos (EnDat 2.2) and two Incremental encoders feedback.
- PID closed loop modes: Position (2khz), speed (4khz), current(20khz) and stepper.
- 250 Arms continues (10 sec 400A over drive @ 42Volts-Air cooling.)
- Communication: CAN bus, Ethernet, RS422-485 and RS232
- Analog and/or digital commands.
- Ripple reducing operation mode.
- Firmware upgrade via RS232.
- Protections: temperature, voltage, CPU, encoders, hall, motor stuck and more.
- 4 digital isolated inputs. 3 digital isolated outputs
- High current 3A motor break output
- Rigid switch construction, high current 3X195A 100V power MOSFETs, for 24-48VDC
- Hardware short motor winding protection.
- Two encoder inputs with automatic switchover.
- Dimensions : 160mm x 171mm x 65mm
- Operating temperature -40°C to +71°C (Extended temp range: -55°C to +85°C)

*A 400V version is under Development



Typical Applications:

- Robotics.
- Automotive.



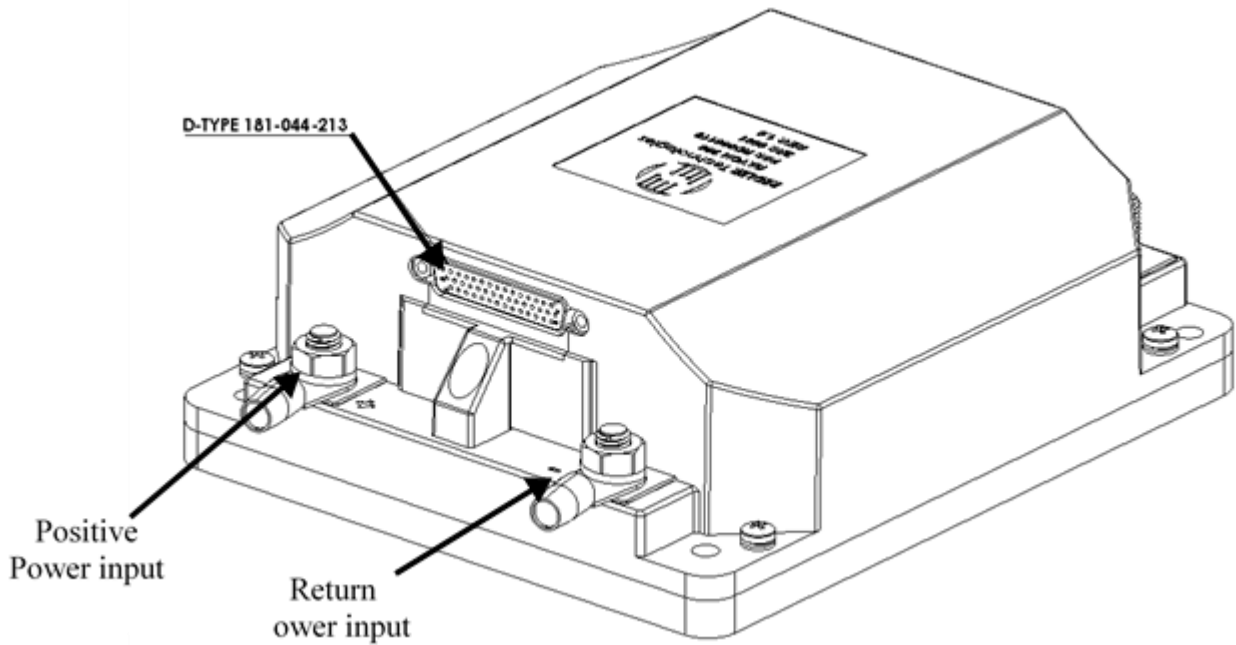
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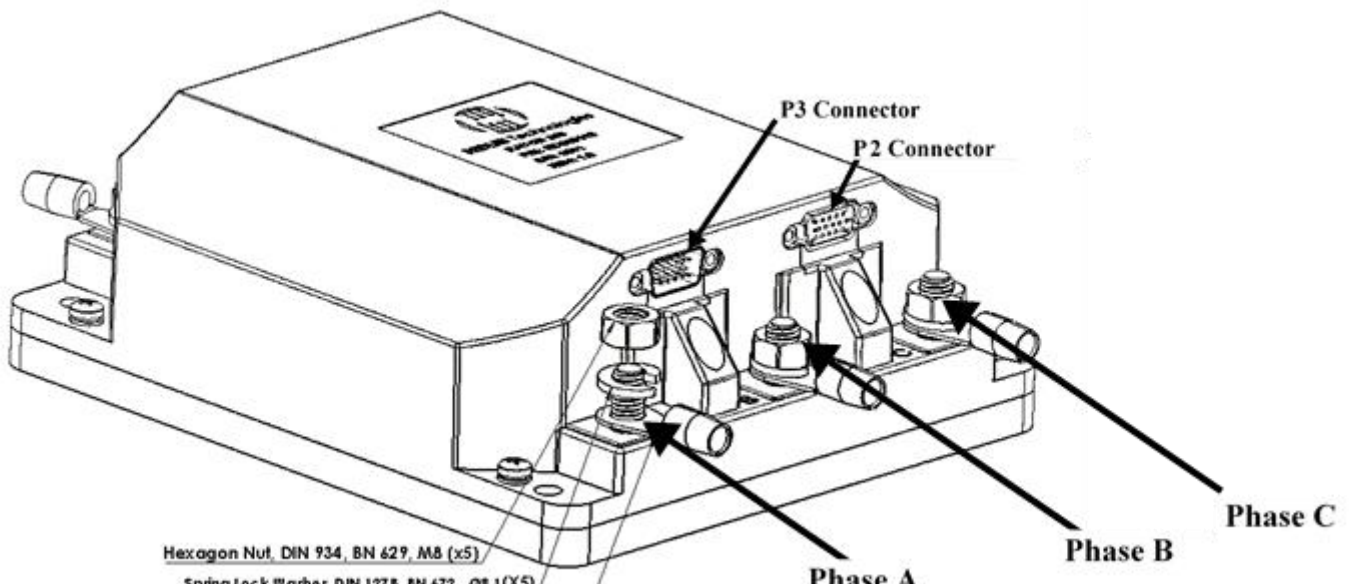
- Avionics.
- Industrial.

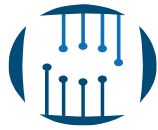
Rayon 300 Ports

Positive/Negative Screws and P1 connector



Connectors, Phases Screws



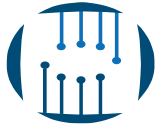


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Technical specifications:

Function	Parameter	Remarks
CPU and Memory		
CORE	TI -TMS320-28069	32bits DSP
Flash	256 Kbytes	
RAM	100 Kbytes	
CORE Speed	90Mhz	
Motor Interface		
BLDC 3 phases Bridge Drivers	6 100V@180A	TOP drive PWM
Bridge Drivers	IRS21834S	1.4 A turn on 1.8 A turn off
Motor Current	70A Continues	Need suitable heat sink
Hall angel inputs	60°	Open collector/Drain
Output hall devices power	5VDC	@200mA
Encoder Interface-A	Sin/Cos	sinusoidal output signals 1VPP
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	256 currents levels.
General Purpose Interface		
Digital Input / Output	6 Channels, 4 Input 2 Output	Optically isolated
Analog input (analog command)	1 Channel	±10V or ±5V 12bits resolution
Communication Interface		
CAN BUS	Single CAN	PWM + Low pass CAN 2.0B 1Mbit/Sec
UART	1 Channels	RS232 or RS422 comm.
Power Supply/Operating temperature		
Voltage	12V to 50V	
Current	50mA +Motor current	Core @ 100Mhz.
Operating Temperature	-40°c +71°c	Optional +85°c
Storage Temperature	-65°c - +150°c	
I/O Connection		
Power Input and Phase output Connector	NorComp 681M5W5103L001	5W5 Pin straight Solder 40A
Signals Input and Digital I/O Connector	Harting 09563517512	Dtype-HD44PIN

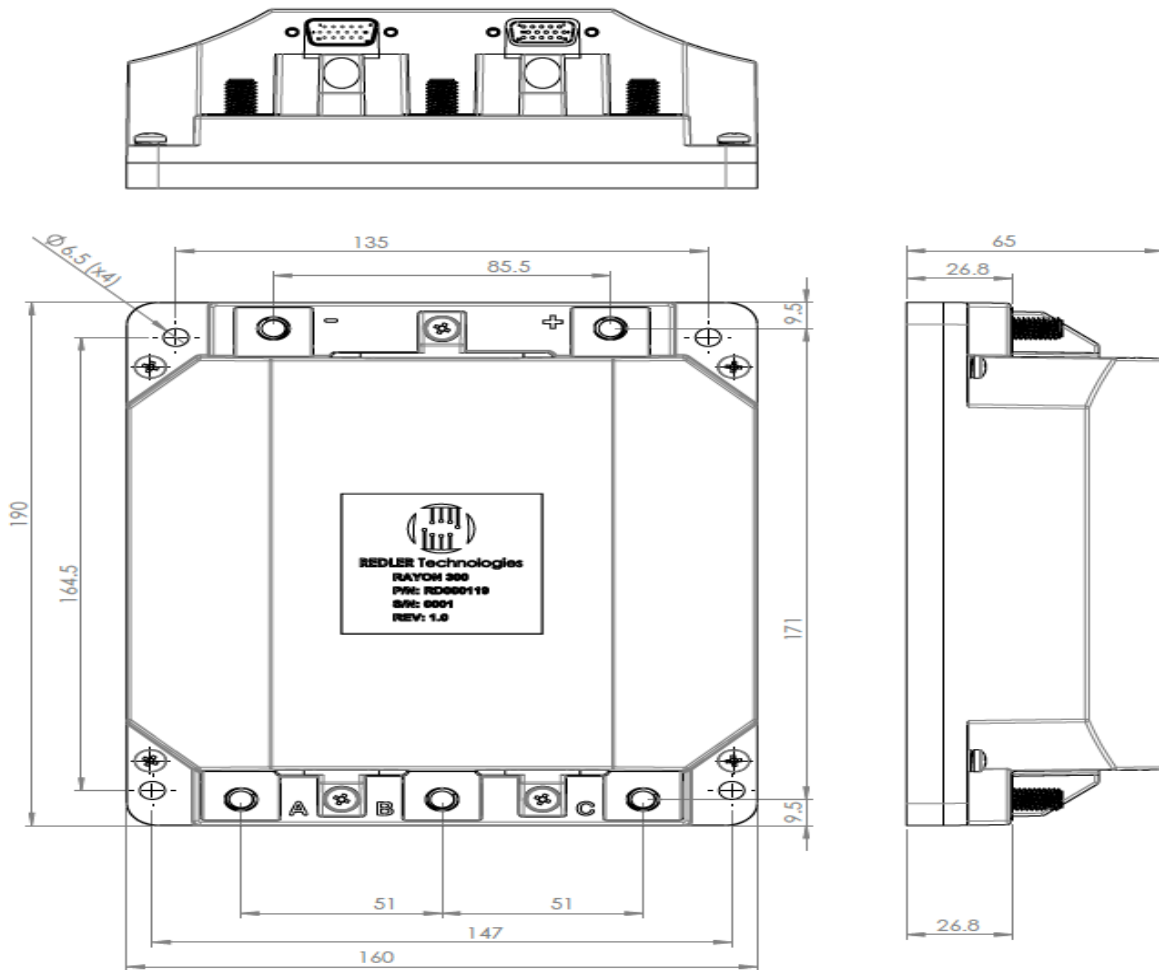


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Mechanical dimensions:



Weight : 2.15 kg'