

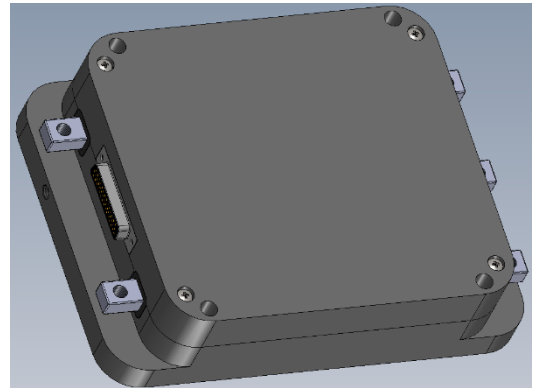
Rayon 250

High performance High Power motor controller driver

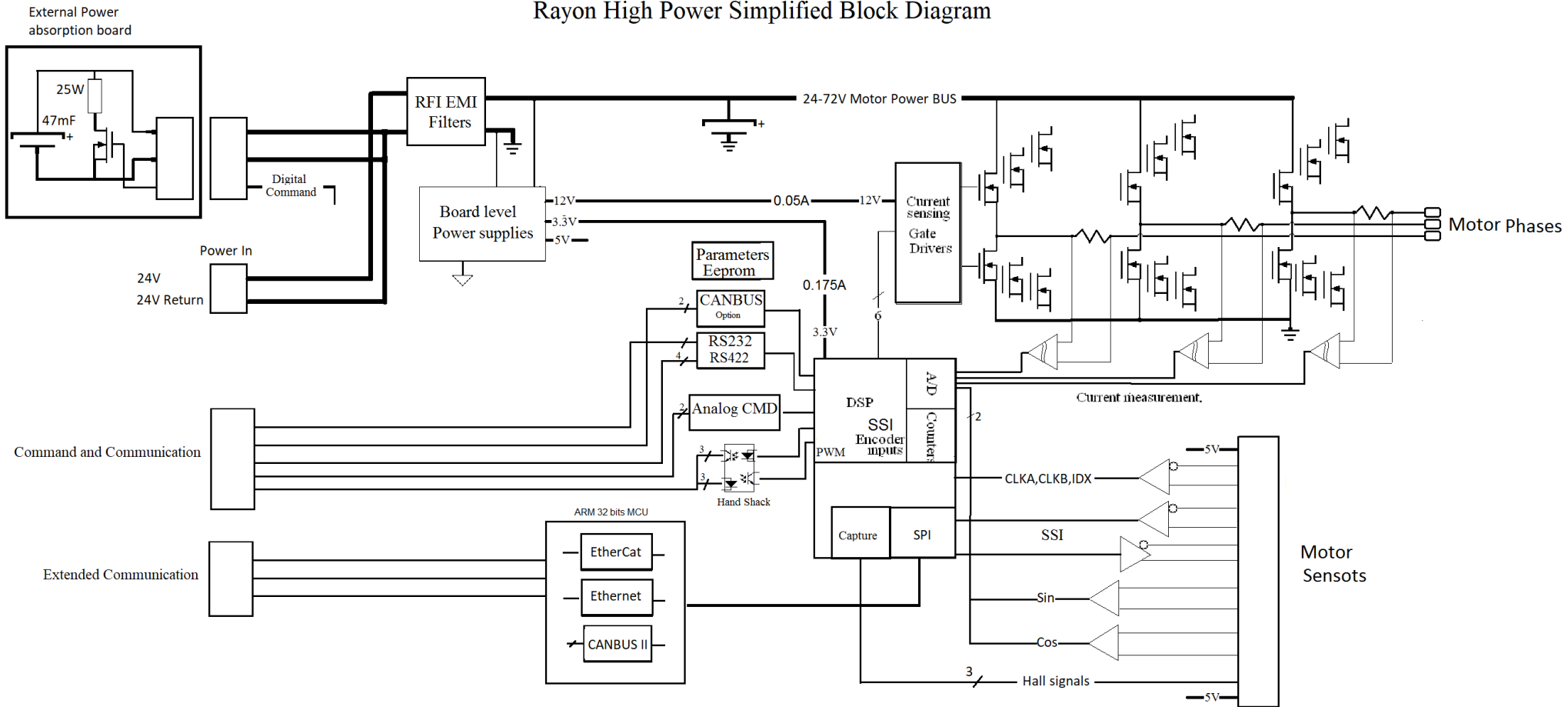
Preliminary Data sheet

Catalog number: RD000116

- Multi Motors Hand shack winding synchronized, Sinusoidal, flux oriented control.
- Hall, Digital SSI. Sin Cos (EnDat 2.2) and 2 Incremental encoders feedback.
- PID closed loop modes: Position, speed, current and stepper.
- Esafe – Eeprom file system management.
- 200A continues current. (10 sec 400A over drive).
@ 42Volts
- Communication: CAN BUS ,Ethernet, RS422-485 and RS232 .
- Analog and / or digital commands.
- Unique ripple reduced operation mode.
- Firmware upgrade via RS232.
- MMI – Load/Read parameters and high speed live graph monitor.
- Protections: Temperature, voltage, CPU, encoders, hall, motor stuck more.
- Encoder to Hall on the fly switch-over.
- Comprehensive Error messages.
- 3 digital inputs. 2 digital outputs.
- Rigid switch construction, high current 3X195A 100V power MOSFETs,
- Hardware short motor winding protection.
- 2 encoders input with automatically switchover.
- Operating temperature -40°C to +71°C (Extended temp range: -55°C to +85°C)



Rayon High Power Simplified Block Diagram



Electronic ICD

Motor winding Interface

Pin No	Pin Signal Name	Signal Description	Mate with
1	Phase A	Press-Fit 240 Ampere WE-7461059	WE- 5580616
2	Phase B	Press-Fit 240 Ampere WE-7461059	WE- 5580616
3	Phase C	Press-Fit 240 Ampere WE-7461059	WE- 5580616

 WE -7461059	 WE- 5580616
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Motor signals Interface

NorComp 774-E25-213R001 D-Type 25 Pin Socket Right Angle

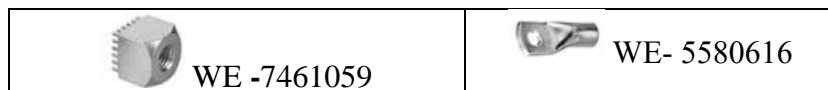
Pin No	Pin Signal/Type	Signal Description
1	GND	Common Signal for Encoder
2	CLK_A/Sin	Encoder CLK_A or EnDat 2.2 Sin+ signal
3	CLK_B/Cos	Encoder CLK_B or EnDat 2.2 Cos+ signal
4	IDX	Encoder Index
5	GND	Common Signal for Hall
6	Hall1	Hall 1 Open drain
7	Hall3	Hall 3 Open drain
8	Spare	Spare pin. Preserved for future use
9	SPI_CLK_422-	BiSS and SSI Clock outn Encoder Interface
10	En_Dat-TXnRXn	BiSS and SSI Data In/Out not Encoder Interface
11	IN2	Discrete Optically Isolated General Purpose Input. (Active low)
12	IN_Ret	Optically Isolated Ground for Input/Output
13	Motor_Temperature	5K Ω NTC motor temperature sensor
14	VCC_OUT_5V	Power supply voltage for Encoder
15	CLK_An/ Sinn	Encoder CLK_A not or EnDat 2.2 Sin- signal
16	CLK_Bn/Cosn	Encoder CLK_B not or EnDat 2.2 Cos- signal
17	IDXn	Encoder Index not.
18	VCC_OUT_5V	Power supply voltage for Hall
19	Hall2	Hall 2 Open drain
20	Spare	Spare pin. Preserved for future use
21	SPI_CLK_422+	BiSS and SSI Clock out Encoder Interface
22	En_Dat-TXRX	BiSS and SSI Data In/Out Encoder Interface
23	IN1	Discrete Optically Isolated General Purpose Input. (Active low)
24	IN3	Discrete Optically Isolated General Purpose Input. (Active low)
25	GND	Control Ground via 0 Ω resistor (for connector insertion test.)



D-Sub Standard Connectors IP67 25P Female CONN R/A .370" W/4-40 thread

Motor Controller Power Interface

Pin No	Pin Signal Name	Signal Description	Mate with
1	24Volt +	Press-Fit 240 Ampere WE-7461059	WE- 5580616
2	24Volt Return	Press-Fit 240 Ampere WE-7461059	WE- 5580616



Motor Controller Communication Interface

NorComp 174-E25-113Ryy1 D-Type 25 Pin Male Right Angle

Pin No	Pin Signal/Type	Signal Description
1	GND	Communication Ground and 24V Control supply return
2	RS232_TX	RS232 signal Data out
3	RS232_RX	RS232 signal Data in
4	CAN_L	CANBUS CAN_H signal
5	Spare	Spare pin. Preserved for future use
6	TX_422+	RS422 TX+ Signal
7	RX_422+	RS422 RX+ Signal
8	PWM_IO	Controller Sync. Data From Master to Slave
9	IN4	Discrete Optically Isolated General Purpose Input. (Active low)
10	IN2	Discrete Optically Isolated General Purpose Input. (Active low)
11	OUT2	Discrete Optically Isolated General Purpose Output. (Open Drain)
12	AGND	Analog Ground for Analog command
13	Ai_N	±5V or ±10V analog Command positive signal.
14	V in	24V+ Control supply IN (optional for separate power source)
15	BOOT	Short to Ground to enable firmware download
16	CAN_H	CANBUS CAN_H signal

NorComp 174-E25-113Ryy1 D-Type 25 Pin Male Right Angle Cont.

17	GND	Communication Ground
18	Spare	Spare pin. Preserved for future use
19	TX_422-	RS422 TX- Signal
20	RX_422-	RS422 RX- Signal
21	PWM_DIR_IO	Controller Sync. Clock from Master to Slave
22	Brake	Discrete Optically Isolated Brake Input. (Active low)
23	IN_Ret	Optically Isolated Ground for Input/Output
24	OUT3	Discrete Optically Isolated General Purpose Output. (Open Drain)
25	Ai_P	±5V or ±10V analog Command positive signal.

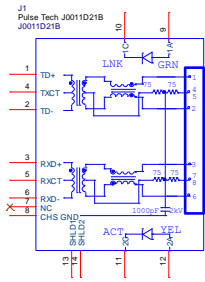


Motor Controller Extended Communication Interface

Pulse technology J0011D21B

Pin No	Pin Signal/Type	Signal Description
1	TXD+	Ethernet 10/100 Transmitted data +
2	TXD-	Ethernet 10/100 Transmitted data -
3	RXD+	Ethernet 10/100 Received data +
4,5	Transmitter Common	Transmitter Common (NC for 4 wires)
7,8	Receiver Common	Receiver Common (NC for 4 wires)
6	RXD-	Ethernet 10/100 Received data +

Pulse technology RJ45 + magnetic



Mechanical dimensions

