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RMC2振镜运动控制卡

RAY-MOTION GALVO MOTION CONTROL CARD

User Manual for RMC2

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Version Releases

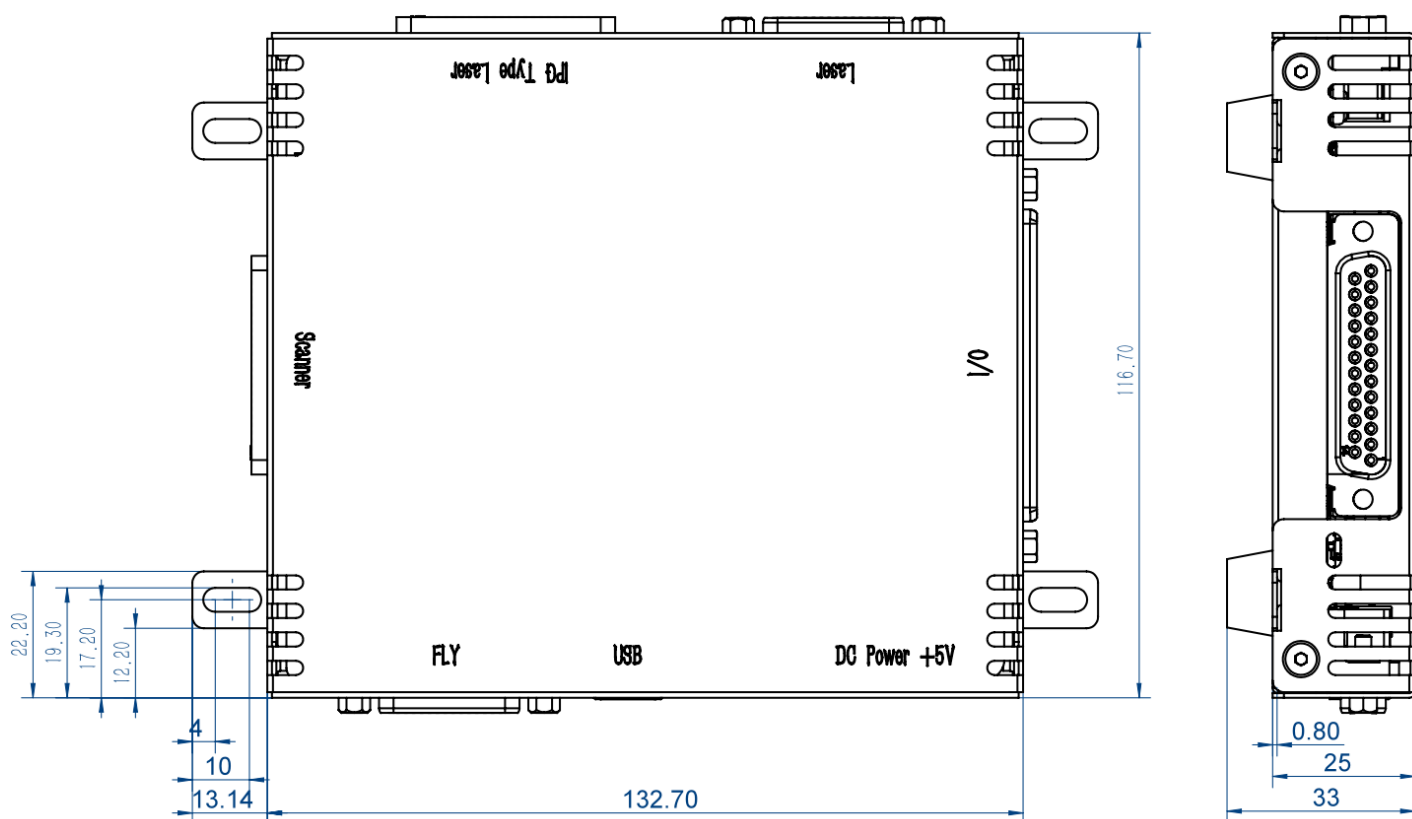| Version	Date	Attribute
Rev.1.0.a	2023.5	·Pin Description for RMC2 Control Card
Rev.1.2.a	2023.5	·Updated interface description ·Add the voltage and current limit of the power input
Rev.1.2.b	2023.9	·Update format and order ·Add cover

Content

RMC2 Card Description

Card Drawing

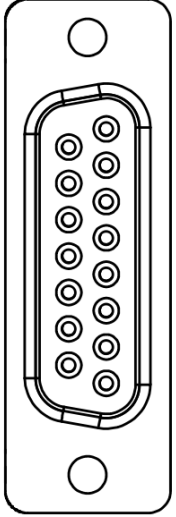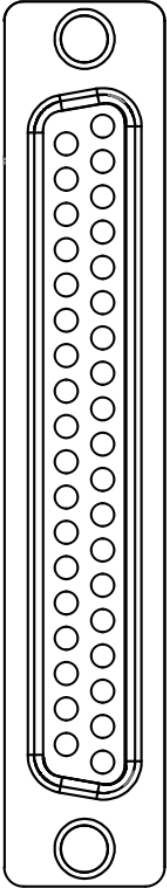| Name	Attribute
IPG Type Laser	IPG type laser connector
Laser	Laser connector
MultiAxis	Signal input/output Connector
DC Power +5V	DC Power +5V 2A
USB	USB 2.0
FLY	Marking-on-the-fly connector
Scanner	Scanner connector

Interface Configuration

IPG Type Laser Connector

D-SUB 25 female connector		Attribute	In/Out
	1-8 （Power D0~D7）	1.Power setting. (0-FF in hexadecimal, or 0-255 in decimal) 2.LSB(D0) corresponds to Pin1, MSB(D7) corresponds to Pin8. 3.-00h(0): Minimun output power. -FFh(255): Maximum output power. -No connection or use, equivalent to 00h. 4.Pulse width modulation communication interface, the control bus is DB25.22. D1: data bus; D2: clock. Other: reserved.	Output
	9	Latch, active on rising edge.	Output
	14	GND	/
	10、11、12、13、15、16、21、24、25	NC	/
	17	+5V Power output	Output
	18	Master Oscillator (MO) switch signal. High level: MO is open; Low level or floating: MO is closed.	Output
	19	Laser modulation input signal (booster amplifier on/off input).	Output
	20	Pulse repetition frequency (sync) input signal.	Output
	22	1.Guide the laser (red diode) on/off input. 2.Pulse width modulation communication interface, control bus. Only low level allows communication.	Output
	23	Emergency stop input. High level: normal; Low level or disconnected: stop.	Output

(25) (24) (23) (22) (21) (20) (19) (18) (17) (16) (15) (14)

(13) (12) (11) (10) (9) (8) (7) (6) (5) (4) (3) (2) (1)

Laser Connector

D-SUB 15 female connector		Name	Atttribute	In/Out
	1	Analogout	Analog output signals of 0-10V for power control.	Output
	3	GND	Reference Ground Signal.	/
	4	PWM	Pulse-width modulation signal, which sets laser power in terms of signal duty cycle, can also be used as a pulse repetition frequency signal.	Output
	5	FPK	First pulse suppression signal, high level effective.	Output
	6	Laser On	Laser switching signal, high level effective.	Output
	7	Leading On	Indicating optical switch signal, high level effective.	Output
	10	Lamp On	Main oscillator switch signal, used for some fiber laser MO switch, high level effective.	Output
	11	Finish	Marking completion signal, low level when marking, high level for the rest of the time.	Output
	12	Start	External trigger marking start signal, short circuit with PIN15 can trigger marking start command.	Input
	13	Stop	External trigger marking stop signal, short circuit with PIN15 can trigger marking stop command.	Input
	14	VCC	+5V Power output.	Output
	15	GND	Reference Ground Signal.	/
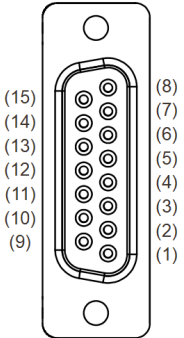
INPUT/OUTPUT Signal Connector
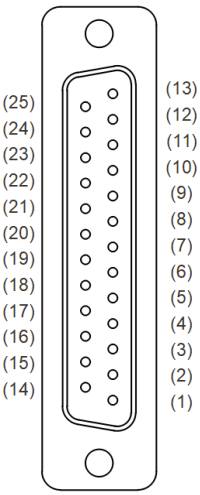
D-SUB 37 female connector		Attribute	In/Out
	1	Digital IN0	Input
	20	Digital IN1	Input
	2	Digital IN2	Input
	21	Digital IN3	Input
	3	Digital IN4	Input
	22	Digital IN5	Input
	4	Digital IN6	Input
	23	Digital IN7	Input
	5	Digital IN8	Input
	24	Digital IN9	Input
	6	Digital IN10	Input
	25	Digital IN11	Input
	7	Digital IN12	Input
	26	Digital IN13	Input
	8	Digital IN14	Input
	27	Digital IN15	Input
	9、10、28	GND	
	11、29	VCC +5V	Output
	30	Digital OUT0	Output
	12	Digital OUT1	Output
	31	Digital OUT2	Output
	13	Digital OUT3	Output
	32	Digital OUT4	Output
	14	Digital OUT5	Output
	33	Digital OUT6	Output
	15	Digital OUT7	Output
	34	Digital OUT8	Output

	16	Digital OUT9	Output
	35	Digital OUT10	Output
	17	Digital OUT11	Output
	36	Digital OUT12	Output
	18	Digital OUT13	Output
	37	Digital OUT14	Output
	19	Digital OUT15	Output

Marking-On-The-Fly

D-SUB 15 female connector	Name	In/Out
1	Encoder A+	Input
9	Encoder A-	Input
2	Encoder B+	Input
10	Encoder B-	Input
6、14	GND	/
7、15、8	+5V Output	Output

Scanner Connector

D-SUB 25 female connector	Name	Attribute	In/Out
1/14	CLOCK-/CLOCK+	Differential output(CLOCK)	Output
2/15	SYNC-/SYNC+	Differential output(SYNC)	Output
3/16	CHAN1-/CHAN1+	Differential output(X)	Output
4/17	CHAN2-/CHAN2+	Differential output(Y)	Output
5/18	CHAN3-/CHAN3+	Differential output(Z)	Output
6/19	NC	/	/
7/20	NC	/	/
8/21	NC	/	/
11/23/24	GND	/	/

Safe

Note: Laser beams are harmful to the human body.

Laser beams can cause serious damage to the eyes and skin, so make sure that the device is properly wired and worn before use. Users must pass relevant training on laser safety.

Ensure that the software program, control card, scanner galvo and laser are in a stable state before running the program, otherwise the reliability and safety of the entire processing process cannot be guaranteed.

Correct shutdown sequence helps to improve the stability of the software and laser, please confirm the laser shutdown in the software after each processing is completed, and the software can be closed only when the laser is down.

Software bursts can be reinstalled on their own in the event that the laser is disconnected to prevent the galvo or laser from getting the wrong command.

If the control card has a sudden problem, please do not disassemble and repair it yourself, and obtain our technical support as soon as possible after the power is cut off.