Mirobot 机械臂激光雕刻 DIY 说明书

- 1、 所需器材
 - (1) 激光雕刻头



亚马逊推荐购买链接:

https://www.amazon.com/Acouto-Engraving-Emitter-Blue-Violet-Engraver/dp/B07HC6 RH6P/ref=sxbs_sxwds-stvp?cv_ct_cx=Blue+Violet+Purple+Laser+Module&dchild=1&ke ywords=Blue+Violet+Purple+Laser+Module&pd_rd_i=B07HC6RH6P&pd_rd_r=061e639 8-8971-4f1f-a0ee-83e9692b63ad&pd_rd_w=K5JwN&pd_rd_wg=6JU4X&pf_rd_p=1835 79a1-f0e6-4556-8e39-8fe08e8f8141&pf_rd_r=2ZSF4M9Y4998YVGWPH0P&psc=1&qid =1587996119&sr=1-52-dd5817a1-1ba7-46c2-8996-f96e7b0f409c

或者

https://www.amazon.com/1000mW-Accessory-DK-8-KZ-Engraver-Printer/dp/B01H1A EHIW/ref=pd_rhf_se_p_img_8?_encoding=UTF8&psc=1&refRID=ZMKA5XPWVDAWXHD MJFSM

或者

https://www.amazon.com/Akozon-Engraving-Machine-Automatic-Accessories/dp/B07 DS5BSTR/ref=pd_rhf_dp_p_img_9?_encoding=UTF8&psc=1&refRID=9ZKVVHX78D4EQ3 PZ9YTP

或者

https://www.amazon.com/Qiilu-Engraving-Emitter-Blue-Violet-Engraver/dp/B076HK52 8H/ref=pd_rhf_dp_p_img_9?_encoding=UTF8&psc=1&refRID=GE0NV32GD01KZ66REPT <u>G</u>

我们推荐使用蓝紫光颜色的激光头,功率大于 500mW

(2) PWM 电子开关



亚马逊推荐购买链接:

https://www.amazon.com/Raitron-Trigger-Regulator-Electronic-Control/dp/B087BKGWZC/ ref=sr_1_9?dchild=1&keywords=PWM+MOS&qid=1587994917&sr=8-9



Raitron MOS Trigger Switch Driver Module FET PWM Regulator High Power Electronic Switch Control Board

Price: \$4.28

- Working voltage: DCSV-S6V
 Working voltage: DCSV-S6V
 Working voltage: DCSV-S6V
 Working voltage: DCSV-S6V
 Trigger signal source digital high level (DCS.3V-20V); can be connected to the microcontroller ID port, PLC interface, DC power supply, etc., can connect PUMV signal, support signal frequency 0-20khz
 Output: DCSV-S6V continuous current at room temperature 15A, power 400W, assisted cooling conditions, the maximum current up to 15A.
 Applications: Couptur can control high power equipment, motors, light bulbs, LED lights, DC motors, mini pumps, solenoid valves, etc., you can enter the PVMV, control the motor speed, lamp brightness and so on.
 Operating temperature: 40 to 85 °C
 See more product details:

(3) Mirobot 扩展模块



(4) 笔架



(5)杜邦线若干



(6) 激光护目镜



2、 连接方式

(1)取出机械臂的笔架,将上边的螺母更换成长度更长的黑色螺母





(2)将激光头固定在笔架上



(3)将笔架通过内六角螺母固定在机械臂的末端



(4) 将 Mirobot 扩展模块通过排线连接到机械臂底座后部的扩展通信接口。



(6)连接扩展模块与 PWM 电子开关以及激光头



实物的连接如下图所示:





3、 安装微雕大师软件

 在下边的网址下载微雕大师软件安装包。 http://www.cncbox.cn/s_soft/92.html





(2) 安装微雕大师软件

4、 开始激光雕刻

(1)打开用于激光雕刻的微雕大师软件,在连接机器处找到自己机器对应的串口,然后点连 接。

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50° - 64865	Enter debug commands	发送 有空

(2)在下部的指令输入行中,首先输入\$h 指令,点击发送,让机械臂执行复位操作。

*	4:查找 5:端口 6:发送 7:完成	找设备端口 口查找成功COM23 送\$k 成!已耗时: O秒	
	>_	Enter debug commands 发送 清空	*

(3)在命令行输入:\$41=150,点击发送,设置一个进行激光雕刻的必要参数。(注意:机械臂 在进行完激光雕刻后,正常使用时,必须设置该参数为\$41=0,否则机械臂将无法正常工作!)。

>_	\$41=150	发送	清空
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(4)在命令行输入:M20,切换机械臂为笛卡尔坐标模式。

>_ M20 发送 清空

(5)在命令行输入:Z70F2000,调整一个合适的激光头高度。

|--|

(6)佩戴好激光护目镜。点击软件中的"强光"按钮,此时激光头被打开,然后在激光头下铺放 一张雕刻用的纸板,用手拧激光头头部的调焦旋钮,使得激光在纸板上形成一个最小最亮的 光斑。然后点击软件中的关闭按钮,关闭激光,准备开始雕刻。



(7)点击软件中的"雕刻图形",然后选择一张要雕刻的图片打开。

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(8)在这个界面设置雕刻的速度,一般速度不超过 2000。推荐设置:尺寸 60*60,逐点雕刻, 每毫米内雕刻 6 行,每个点雕刻 160 毫秒。



(9)设置起点为"左下",然后点击开始按钮。

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(10)激光雕刻开始进行,等待到结束即可。



Mirobot Laser Engraving DIY Manual

1 Required equipment

(1)Laser engraving head



Amazon recommended purchase link:

https://www.amazon.com/Acouto-Engraving-Emitter-Blue-Violet-Engraver/dp/B07HC6 RH6P/ref=sxbs_sxwds-stvp?cv_ct_cx=Blue+Violet+Purple+Laser+Module&dchild=1&ke ywords=Blue+Violet+Purple+Laser+Module&pd_rd_i=B07HC6RH6P&pd_rd_r=061e639 8-8971-4f1f-a0ee-83e9692b63ad&pd_rd_w=K5JwN&pd_rd_wg=6JU4X&pf_rd_p=1835 79a1-f0e6-4556-8e39-8fe08e8f8141&pf_rd_r=2ZSF4M9Y4998YVGWPH0P&psc=1&qid =1587996119&sr=1-52-dd5817a1-1ba7-46c2-8996-f96e7b0f409c

or

https://www.amazon.com/1000mW-Accessory-DK-8-KZ-Engraver-Printer/dp/B01H1A EHIW/ref=pd_rhf_se_p_img_8?_encoding=UTF8&psc=1&refRID=ZMKA5XPWVDAWXHD MJFSM

or

https://www.amazon.com/Akozon-Engraving-Machine-Automatic-Accessories/dp/B07 DS5BSTR/ref=pd_rhf_dp_p_img_9?_encoding=UTF8&psc=1&refRID=9ZKVVHX78D4EQ3 PZ9YTP

or

https://www.amazon.com/Qiilu-Engraving-Emitter-Blue-Violet-Engraver/dp/B076HK52 8H/ref=pd_rhf_dp_p_img_9?_encoding=UTF8&psc=1&refRID=GE0NV32GD01KZ66REPT G

(2) PWM electronic switch



Amazon recommended purchase link:

https://www.amazon.com/Raitron-Trigger-Regulator-Electronic-Control/dp/B087BKGWZC/ ref=sr_1_9?dchild=1&keywords=PWM+MOS&qid=1587994917&sr=8-9



Raitron MOS Trigger Switch Driver Module FET PWM Regulator High Power Electronic Switch Control Board

Price: \$4.28

- Working voltage: DCSV-36V
 Output: DCSV-36V
 Control: D

(3) Mirobot expansion module



(4) Penholder



(6) Laser goggles



(5) DuPont Line



2 Connection method

(1) Take out the pen holder of the arm and replace the nut with a black nut with a longer length.



(2) Fix the laser head on the pen holder.



(3)Fix the pen holder to the end of the robot arm through the hexagon nut.



(4) Connect the Mirobot expansion module to the expansion communication interface at the rear of the base of the robot arm through the cable.



(5) Connect expansion module with PWM electronic switch and laser head.



The physical connection is shown below:





3 Install Micro-Engraver Software

(1) Download the software installation package of Master Micro Engraver from the website below.

http://www.cncbox.cn/s_soft/92.html
微聞大师安装 包 V1.9.6.1.exe
SER 服务专区 和见回题解答中心,用心为您服务。 HEOLETHY AREAD CLETICIE
/
微雕大师最新版1.9.6
文章出处: 鲁班DIY 网站编辑: 小编 发表时间: 2019-02-17 12:48 我要分享 ▼
◆ 大冊 下 裁 微離大师是鲁班DIY自主开发的一款针对激光雕刻机的操作软件。直
接職刻各种图片效果,各种文字效果,无需生成職刻代码。和魯班
DIY的V4、V5、V6控制主板完美融合。是目前中小型激光雕刻机中操作最简便,功能最强大的软件。我们对软件会不断
的优化升级,数程也会及时更新,您看到此文档时我们可能已更新数个版本,建议大家到官网查看最新数程
(http://www.lubandiy.com),或关注我们微信公众号:luban-diy ,后续有更新时你可以第一时间获得消息,更会不
定期收到店铺红包与优惠卷。
大家在使用中如遇到问题或有改进的建议欢迎您联系我们。我们会及时更新。如对软件与硬件有特殊需求也可定制
设计。

(2)Install Micro-Engraver Software.

微雕大师 1.9.6.1	欢迎使用"微雕大师"安装向导	微離大师 1.9.6.1 安装设置 设置安装目录、开始菜单程序组、桌面快捷方式等
花窗单	这个向导将指引你完成"微雕大师1.9.6.1"的安装进程。 单击[下一步继续。 在开始安装之前,建议先关闭其他所有应用程序。	目标文件夹 d:\Program Files (x86)\CNCBox\ 更改
随美川	本程序预版权保护	
http://www.lubandiy.c	oom 下一步 》 取消	http://www.lubandiy.com 〈上一步〉下一步〉 取消

微離大师 1.9.6.1	" 微雕 大师"安装向导	微離大师 1.9.6.1 "微雕大师" 安装向导	
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http://www.lubandiy.co	om 〈上一步 安装 取消	http://www.lubandiy.com	L

(3)Switch the language of Micro-Engraver Software to English.

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4 Start laser engraving

(1) Open the micro-engraving master software for laser engraving, find the serial port corresponding to your Mirobot at the connection machine, and then click to connect.

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(2) In the lower command input line, enter the "\$ h" command and click "Send" to let the robot perform the reset operation.

 ▲ 1: 微雕大师启动 ▲ 2: 查找设备端口 			
3: 端口查找失败			
>_ \$h	Send	Empty	

(3) Enter in the command line: "\$41 = 150", click "Send" to set a necessary parameter for laser engraving. (Note: After laser engraving, the parameter must be set to \$41 = 0 during normal use, otherwise the robot arm will not work properly!).

>_ \$	41=150	Send	Empty	
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(4) Enter: "M20" on the command line to switch the robot arm to Cartesian coordinate mode.

>_	M20	Send	Empty	
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(5) Enter: "Z70F2000" at the command line to adjust a suitable laser head height.

>_ Z70F2000 Send Emp

(6) Wear laser goggles. Click the "High laser" button in the software, the laser head is turned on, then lay a piece of cardboard for engraving under the laser head, and manually turn the focus knob on the head of the laser head to make the laser shine on the cardboard The smallest and brightest spot. Then click the "Close" button in the software to turn off the laser and prepare to start engraving.



(7) Click "Graphics" in the software, and then select a picture to be engraved to open.



(8) Set the speed of engraving on this interface, the general speed does not exceed 2000. Recommended setting: size 60×60 , engraving point by point, engraving 6 lines per millimeter, and engraving 160 ms per point.



(9) Set the starting point to "Left bottom " and click the "Start" button.

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	>_ Enter	debug comm	ands	Send Enpt:	,	

(10) Laser engraving begins, wait until the end.

