

USB转TTL stm32
GND-----G
5V-----5V
RXD-----A9
TXD-----A10

-----程序下载-----

需要用软件给单片机刷程序时

单片机C13与G相连接，单片机重启，软件打开串口，发送 1

The screenshot shows the 'stm32Downloader' application window. It is divided into several sections:

- 当前用户信息 (Current User Information):** Shows '用户名: testking' and '用户类型: 管理员用户'.
- 串口设置 (Serial Port Settings):** Includes dropdowns for '串口号' (COM port), '波特率' (Baud rate: 115200), '数据位' (Data bits: 8), '校验位' (Parity: 无校验), '停止位' (Stop bits: 1), and '流控制' (Flow control: 无流控). It also has radio buttons for 'ASCII' (selected) and 'HEX', and a checkbox for '时间' (Time). A red circle highlights the '连接' (Connect) button, labeled '1'.
- 串口显示区 (Serial Port Display Area):** A large text area for displaying serial communication. Red text below it says '2.在这里输入 1' (Enter 1 here) and '6.下载完成后输入3, 在发送可以看运行结果' (After download, enter 3, and you can see the running result after sending). A red arrow points to the bottom of this area with the text '3.点击发送' (Click Send) and '---是单片机串口发送的信息' (--- is the information sent by the microcontroller serial port).
- bin文件下载 (BIN File Download):** Contains fields for '上传路径' (Upload path) and '下载路径' (Download path). It has buttons for '上传文件' (Upload file), '下载文件' (Download file), and '删除所选数据库文件' (Delete selected database file). A table lists available files:

	id	文件	用户	权限	时间
1	1	1.bin	testking	1	20210418012721
2	2	2.bin	testking	1	20210418012733
3	3	2.bin	testNormal	0	20210418012829
4	4	2.bin	testNormal	0	20210418160514

Red text annotations point to the table: '4.在这里选中所需bin文件' (Select the required BIN file here) points to row 2, and '5.点击这里向单片机下载程序' (Click here to download the program to the microcontroller) points to the '下载文件' button.

- bin文件网络共享 (BIN File Network Sharing):** Includes radio buttons for 'Server' (selected) and 'Client'. The 'Server' section shows '本机IP: 192.168.0.193'. The 'Client' section has a field for '对方IP:'. There is a '端口号' (Port number) field set to 8080, with '点击连接' (Click Connect) and '发送文件' (Send file) buttons. Below is a '接受文件地址' (Receive file address) field and a progress bar showing 0%.

网络通信时

