Avalon A10 API manual

v0.1

Canaan

Release Notes

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| --- | --- | --- |
| Version | Date of modify | Notes |
| v0.1 | 2019-8-31 | Create document. |
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|  |  |  |

# summarize

* The API command uses TCP short connections to send and receive. Each command is sent and returned in one TCP connection.
* The API needs to be executed by single thread and does not support concurrency.
* You must wait for the API command finish in order to start the next API communication.
* API communication port is 4028.

# API Instructions

## Query controller version

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| --- | --- |
| Note | Query control board version information. |
| Format | version| |
| Example(linux socat) | echo -n "version|" | socat -t 30 stdio tcp:192.168.189.135:4028,shut-none && echo |

## Reboot miner

|  |  |
| --- | --- |
| Note | Reboot miner. |
| Format | ascset|0,reboot,0 |
| Example(linux socat) | echo -n "ascset|0,reboot,0" | socat -t 30 stdio tcp:192.168.189.135:4028,shut-none && echo |

## LED control

|  |  |
| --- | --- |
| Note | Turn on/off the white LED on the miner panel. |
| Format | ascset|0,led,1-0 turn off  ascset|0,led,1-1 turn on  ascset|0,led,1-255 query state |
| example(linux socat) | echo -n "ascset|0,led,1-255" | socat -t 30 stdio tcp:192.168.189.135:4028,shut-none && echo |

## Set work mode

|  |  |
| --- | --- |
| Note | Configure or query the working mode of the miner (effective after restart) |
| Format | ascset|0,workmode,0 31T normal mode  ascset|0,workmode,1 37Tperformance mode  ascset|0,workmode,255 query current mode |
| Example(linux socat) | echo -n "ascset|0,workmode,1" | socat -t 30 stdio tcp:192.168.189.135:4028,shut-none && echo |

## Set pool information

|  |  |
| --- | --- |
| Note | Set pool information(effective after restart). |
| Format | ascset|0,setpool,<username>,<password>,<pooladdr>,<worker>,<workerpasswd> |
| Arguments | <username> miner username(same  as web login)  <password> miner password(same  as web login)  <pooladdr> pool url address or IP address  <worker> worker name  <workerpasswd> worker password |
| Example(linux socat) | Use pool :stratum+<tcp://btc.ss.poolin.com:443>  Worker name: cctrix.001  Worker password : 123  We assume both user name and password are root.  echo -n "ascset|0,setpool,root,root,stratum+<tcp://btc.ss.poolin.com:443,cctrix.001,123>" | socat -t 30 stdio tcp:192.168.189.135:4028,shut-none && echo |

## Shut down HASH power

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| --- | --- |
| Note | Shut down the HASH power supply to make the miner enter the low power state. To return to the working state, use the reboot API command. |
| Format | ascset|0,hashpower,0 |
| Example(linux socat) | echo -n "ascset|0,hashpower,0" | socat -t 30 stdio tcp:192.168.189.135:4028,shut-none && echo |

## Query HASH power state

|  |  |
| --- | --- |
| Note | Read Hash power status. |
| JFormat | ascset|0,hashpower |
| Result | We get reply as below：  STATUS=I,When=1052,Code=118,Msg=ASC 0 set info: **PS[0 1220 1314 140 1839 1308]**,Description=cgminer 4.11.1|  For this example , each argument ：  0：errcode ，no-err.(For more information, see Appendix "Power supply error Code Table")  1220：voltage to controller，12.2V.  1314：voltage to HASH boards，13.14V  140：output current 140A  1839：output power 1839W  1308：the setting voltage to HASH boards. |
| example(linux socat) | echo -n "ascset|0,hashpower,0" | socat -t 30 stdio tcp:192.168.189.135:4028,shut-none && echo |

# Appendix Power supply error Code Table

|  |  |  |
| --- | --- | --- |
| **Value** | **Definition** | **Notes** |
| 0 | OK | All is OK. |
| 1 | Input\_UV | Input voltage low. |
| 2 | OT1 | Over hot |
| 4 | OT2 | Over hot |
| 8 | OT3 | Over hot |
| 16 | OC\_Pri | Input over current |
| 32 | UV\_out | Output voltage low |
| 64 | OC\_out | Output over current |
| 128 | CS\_error | N/A |
| 8 | OC\_IOSA | N/A |
| 9 | OC\_IOSB | N/A |
| 10 | OC\_IOSC | N/A |
| 11 | FAN\_error | Fan failed |