

iBeLink DM384M Specification

Version Update List

Time	Description	Version
2016-01-22	Initial version	1.0
2016-02-18	Fixed some bug	1.1
2016-03-02	Updated pool list	1.2
2016-04-22	1. Added temperature monitor 2. Supported the extra nonce(xnsub) protocol 3. Fixed the configuration failure bug 4. Updated the web UI	1.3
2016-05-12	1. Supported static IP configuration 2. Updated the web UI	1.4
2016-06-20	1. Added web login 2. Improved the pool configuration 3. Updated the web UI	1.5

Component list

Index	Component	count	description
1	Main box	1	Size 49x35x18 cm
2	Power cord	1	Power supply
3	Specifications	1	This document

Feature

- Hash rate: 384MHash $\pm 10\%$, power consumption: $< 2\text{W/MHash}$
- Support all POW X11 algorithm encryption currency mining
- Support the Stratum protocol pool and solo mining
- Provide web management platform, ease of setup and large-scale deployment
- Web platform providing hash rate statistics, mining pool status monitor
- Support to restart mining software or to restart the machine through the web platform
- Support power-on self-test function and identifying each fault chip location
- Support hashing blade LED status indication, convenient for large scale mining operation
- Support main pool and multi backup pool settings, and automatic switching of faulty pool
- Support email warning for hash rate abnormality and nonce rejection rate abnormality, maximizing your miner's up time
- Support email warning for hashing blade loss, and restart for self-recovery
- Support self-recovery from network and driver fault with independent system watchdog

Operation Guide

Login mining machine

After linked to network and power up about 1 minute, the four LED lights on the front panel will turn from red to blue one by one, indicating mining started normally. On any computer in the same local network (exactly the same route) with the mining machine, enter the hostname (default name: iBeLink) or its IP address in the browser, such as: <http://iBeLink/>, you will access the login page as shown in Fig. 1. Input the default password: iBeLink and click the **[Login]** button to login the mining system.

User Name	iBeLink
Password
Password	Login

Fig. 1 Login page

You can change or retrieve the password of mining system by click the **[Password]** button at login page to link to password manager page as shown at Fig. 2.

User Name	iBeLink
Old Password
New Password
Confirm Password
ReLogin	Change Password
MAC Address	b8:27:eb:8f:c2:ff
	Retrieve Password

Fig. 2 Password manager page

Filled the old password and double checked new password, and then click the **[Change Password]** to update your new password. If you forget your password, you can fill the MAC address of mining machine and click the **[Retrieve Password]** button to reset the password to default: iBeLink. Further more, if you have configured the warning email server and target email address(See the following description), clear the MAC address and click the **[Retrieve Password]** button and the forgot password will send to your warning email. The MAC address is shown Fig.3 at home page, and you can also find the MAC address at your route.

State of mining machine

After login the mining system, you can open the mining machine home page web management platform, as shown in Fig. 3.

Home

Logout

FAQ

Time: 2016-06-21 05:14:16 TimeZone: 0

HostName: iBeLink

ip: 192.168.1.169

MAC: b8:27:eb:8f:c2:ff

NewHostName: iBeLink

change

reboot

restart

Address	Devs	Temp	Util	MH/s 5s	MH/s avg	Rec	Acc	Rej	H/W	Gets	Disc	Stales	Get Fails	Rem Fails
<div>Config</div> CGMiner-Dash	192 4/4	63.7°C 53.6°C	3.35 (2.84)	98.36 9.84 %	267.26 26.73 %	4312	4177 98.96 %	44 1.04 %	64 1.48 %	1610	3193 76.44 %	6 0.14 %	5 0.12 %	0 0.00 %

Dev	En	Run Time	PLL	Baud	Chips Map	Active Map	MH/s 5s	MH/s avg	Send	Rec	Acc	Rej	H/W	Share Diff	Util	Pool
<div>Modify</div> DM0	<div>Stop</div>	0days 20:48:0	110	115200	48 m	7 40701200200	8.61	62.52	2982 0	1048	961 98.26 %	17 1.74 %	62 5.92 %	0.92446918	0.77 (1.15)	0
<div>Modify</div> DM1	<div>Stop</div>	0days 20:48:0	110	115200	48 m	6 400e10000800	1.17	66.82	2965 0	1089	1080 99.54 %	5 0.46 %	0 0.00 %	0.92446918	0.87 (1.28)	0
<div>Modify</div> DM2	<div>Stop</div>	0days 20:48:0	110	115200	48 m	3 8004800000	46.18	67.58	2933 0	1084	1067 99.07 %	10 0.93 %	1 0.09 %	0.92446918	0.85 (1.26)	0
<div>Modify</div> DM3	<div>Stop</div>	0days 20:48:0	110	115200	48 m	3 42400000	42.4	70.34	2964 0	1091	1069 98.89 %	12 1.11 %	1 0.09 %	0.92446918	0.86 (1.27)	0

Fig. 3 iBeLink DM384M miner web management platform homepage

The home page shows the basic information of the mining machine:

1. The current time, time zone, hostname, IP address, MAC address.
2. Mining machine chip count, blade count, temperature, average nonce count per minute, 5S and average hash rate statistics, returned nonce count from chip, accept/reject/error nonce count and rate from the startup time.
3. The running time of the machine, PLL and serial baud rate parameter
4. The chips count, the test result bitmap, returned nonce count from chip and bitmap during last 20 minutes, accept/reject/error nonce count and rate, the current task difficulty, average nonce count per minute, and current mining pool index, all for each blade.
5. Statistics of task information from the mining pool.

Mining Configuration

1. Modify hostname: as shown in Fig.3, input the new hostname at the text box next to NewHostName, Click [**change**] button to modify the hostname, and reboot machine to take effect.

- Click [**reboot**] button to restart the whole machine.
- Click [**restart**] button to restart mining software.
- Pool configuration

In Fig.3, click the [**Config**] button to link to the mining machine configuration page as shown in Fig.4.

As shown in Fig.4, filling the mining pool site in the Pool URL input box, mining worker name in the Pool user input box, mining worker password in the Pool Password input box, click the [**Edit Pool**] button to edit the selected mining pool information, and click the [**Add Pool**] button to add the mining pool.

Click the [**✓**] button to select the pool to show information of pool.

Click the [**Top**] button to set the highest priority pool of mining.

Click the [**Stop**] button to disconnect the mining pool.

Click the [**Delete**] button to delete the mining pool.

Pool	Priority	URL	Gets	Diff	Accepts	Rejects	Discards	Stales	Get Fails	Rem fails
0	0	stratum+tcp://mine1.coinmine.pl:6099	31	1.663	72 98.63 %	1 1.37 %	58 187.10 %	0 0.00 %	0 0.00 %	0 0.00 %
1	1	stratum+tcp://mine1.coinmine.pl:6099	2	0.031	21 100.00 %	0 0.00 %	0 0.00 %	12 57.14 %	0 0.00 %	0 0.00 %

Pool URL: stratum+tcp://mine1.coinmine.pl:6099

Pool User: x11miner.0

Pool Password: x

Email Server: smtp.gmail.com

Email User: ibelinkserver@gmail.com

Email Password:

Email Target: ibelink@foxmail.com

Low Hashrate Threshold(MHz): 300

High Reject Threshold(%): 10

Low Hashrate & High Reject Warning Duration(m): 10

Start Time(m): 60

Time Zone: 8

Temperature Warning Duration(s): 60

Warning Temperature(°C): 70

Shutdown Temperature(°C): 80

Static IP: 192.168.1.169

Netmask: 255.255.0.0

Gateway: 192.168.0.1

Static IP Enable: ☒ Enable

API Port: 4030

Already send Low hashrate warning Email count: 0 and High reject warning Email count: 0 and Temperature warning Email count: 0

To restart/quit cgminer or update/rollback/restore cgminer version, click the checkbox, then press the button. Current version cgminer-3.5.6

☒ Restart ☐ Quit ☐ Update ☐ Rollback ☐ Restore

Fig.4 Mining Machine configuration

- Email warning configuration

Mining machine provides Email warning of low hash rate and the high rejection rate of pool. Setup as following:

Filled the Email server address, Email user and password, click the [**Set Email Server**] button to set the mail server,

Filled the target Email, the low hash rate threshold value (MHash/s), the pool high rejection threshold (%), the warning duration(minute) and the warning start time(minute), click [**Set Warning Param**] button to set Email warning parameters.

The time zone is used to correct time zone difference on the homepage showing current time.

6. Temperature monitor configuration

Mining machine provides temperature monitor function, and it can be configured as following:

Filled the temperature warning duration(second), warning threshold temperature($^{\circ}\text{C}$) and shutdown miner threshold temperature($^{\circ}\text{C}$), and selected the temperature sensor fault warning, click **[Set Warning Param]** button to enable the temperature monitor. Attention, shutdown temperature must above the warning temperature and the maximum value is 80°C , and it will shutdown the miner if temperature above threshold value for a fixed duration of more than 5 seconds.

7. Static IP and API port configuration

Mining machine provides DHCP as default, if you want to configure a static IP, it can be configured as following:

Filled the Static IP, Netmask, Gateway and selected the static IP enable checkbox, click **[Set Static IP]** button to enable the static IP, if you want to switch to default DHCP mode, just clear static IP enable checkbox and click **[Set Static IP]** button. Attention, some routers need to be configured also when PI switch to static IP. The API port is default 4029, and you can fill new API Port and click **[Set Static IP]** button to change it.

IP mode and API port configuration will take effect after save the configuration and reboot the PI system.

8. Save configuration

After all parameters are configured, click **[Save Configuration]** button to save the parameters.

9. Mining software restart/quit/update/rollback/restore

As shown in Fig.4, the default mining software version: cgminer-3.5.6

Check the **[Restart]** selection box, click the **[Restart]** button to restart mining software.

Check the **[Quit]** selection box, click the **[Quit]** button to exit the mining software.

Check the **[Update]** selection box, click the **[Update]** button to update the software version.

Check the **[Rollback]** selection box, click the **[Rollback]** button to rollback mining software last version.

Check the **[Restore]** selection box, click the **[Restore]** button to restore mining software default version and load factory default configuration.

10. ASIC chip parameter configuration

In Fig.3, click the **[Modify]** button to link to the ASIC chip parameter configuration page shown in Fig.5.

Check the Set PLL selection box, filling the PLL parameter, and then click the **[Apply Settings]** button to apply the PLL parameter to the ASIC chip.

Check the Set Baudrate selection box, filling the baud rate parameter, and then click the **[Apply Settings]** button to apply the baud rate parameter to the ASIC chip.

Check the Reconfig Blade selection box, filling the parameter to 1, and then click the **[Apply Settings]** button to re-configure the blade.

Set	Min	Setting	Max
<input checked="" type="checkbox"/>	25	Set PLL: 115 MHz	115
<input checked="" type="checkbox"/>	115200	Set Baudrate: 921600 bps	921600
<input checked="" type="checkbox"/>	0	Reconfig Blade:	1

Apply Settings

Fig. 5 ASIC chip parameter configuration

Note

Don't forget to click the **[Save Configuration]** button shown in Fig.4, if you want to save the parameters of ASIC chip.

FAQ

- **Why my browser can't configure parameters of miner?**

It is recommended to use the Google Chrome browser to configure the parameters of miner.

- **What does bitmap Chip mean in the home page?**

While mining software startup, it will self test all ASIC chips at each blade, if the test result is normal, the bitmap values set to 1, otherwise to 0, corresponding to the chip position. Active bitmap values reflect the nonce return corresponding to chip position, and clear to 0 every 20 minutes.

- **Why my web shows ASIC chip count less than 192 sometimes?**

Due to electrical instability or software driver abnormality, mining software fail to accurately detect all chip. As long as the detected chip number on a blade is greater than 32, the mining software will do the configuration as 48 chips for the blade, it does not affect the actual hash rate.

- **Why the temperatures show -80°C sometimes?**

It means that the temperature sensor is faulty and it needs to confirm the hardware is normal. If you configured the Email warning and selected the sensor fault warning, it will send warning Email to you if the abnormal situation last for more than the temperature warning duration.

- **Can the machine be over clocked?**

It can be overclocked by modify the chip PLL parameters. But default PLL frequency is the ideal configuration of overall performance of the mining machine, so no need to overclock any more.

- **How to disable the Email warning?**

Empty Target Email text box, click the [\[Set Warning Param\]](#) button to disable the Email warn function.

- **Why the blades loss warning is not required during configuration?**

Blade abnormal loss influence hash rate substantially, so the corresponding Email warning function is enabled by default. After setting your warning mail server and target e-mail address to receive, with any abnormal loss of the blade, the mining software will automatically send emails and turn the corresponding LED to red, and it will wait for about 2 seconds and then restart mining software, tries to retrieve the lost blade. If warning email function is disabled, no warning email will be sent out, but mining software will still automatically restart to retrieve the lost blade.

- **Why mining software automatically restart?**

Mining software support self recovery from network or driver fault, with watchdog monitoring for the whole system , when an anomaly is detected, the mining software will automatically restart, trying to self-recover from the fault, so mining software auto restart is a normal phenomenon.

- **How to recover the mining software after crash?**

After the miner crashed, click the **[Config]** button and link to the web shown in Fig. 6, you can choose to update latest mining software version or roll back to last version or restore to default version and factory configuration.

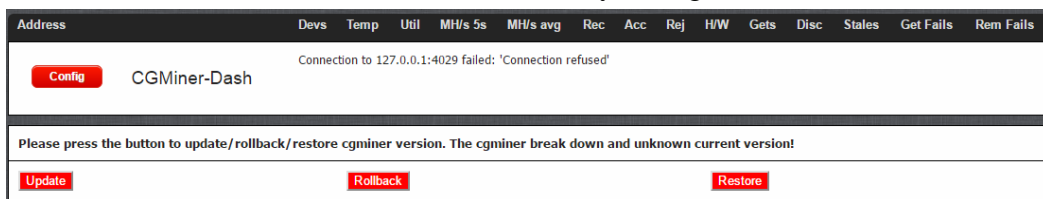


Fig. 6 Recover the miner after crash

- **Why hash rate statistical results are not the same in different mining pools?**

Mining software do hash rate statistics by returned nonce, different mining pools provide different difficulty, returned nonce count are not the same, leading to the hash rate statistical results are not the same. If low hash rate e-mail warning function is enable, please pay attention to different mining pool configuration and corresponding threshold value.

- **Why some mining pool rejection rate is very high?**

Since the hash rate of iBeLink DM384M mining machines is very high, orders of magnitude of those typical GPU miner, some mining pools are unfriendly to ASIC mining machine, causing very high rejection rate. If mining pool can set the difficulty, please appropriately raise the difficulty of mining, reduce nonce average quantity, so as to reduce the rejection rate, or switch to other ASIC friendly mining pool.

- **Why my miner is not in the main mining pool but in reserve pool sometimes?**

In multi mining pools configuration, mining software work in the highest priority of mining pool, if the main mining pool connection failed, it will automatically switch to the available reserve mining pool to mine.

- **Popular X11 algorithm mine pool**

<https://www.nicehash.com>

<https://www2.coinmine.pl>

<https://www.suchpool.pw>

<https://www.multipool.us>

<https://www.coinotron.com>

<http://www.p2poolmining.us>

Disclaimer

- The manufacturer is not liable for any loss or damage of the miner caused by irresistible force of nature.
- The manufacturer is not liable for any loss or damage of hardware and/or software caused by unauthorized alteration of the miner.
- The manufacturer is not liable for any loss or damage of the miner caused by over-clocking or improper heat dissipation.
- The manufacturer is not responsible for any miner sold through unauthorized distribution channels.
- The manufacturer is not responsible for any loss of the mining capability caused by ASIC unfriendly mining pool.
- The manufacturer is not responsible for any loss due to the price fluctuation of crypto currency.

iBeLink DM384M Technical Support Info

- <https://dashtalk.org/> support account: iBeLink_1