

# **ANANDA LINK Operating Manual**

# 1. System Introduction

Ananda online service platform provides intelligent online diagnosis, data analysis and software updating function for the mid motors, controllers of hub motors and displays which are produced from Ananda.

Users could connect and get the status of drive system and upgrade the firmware or parameter of the product upgrade, but not all the faults can be solved by Ananda link. The following list shows main functions of Ananda link system:

Function	Main Instruction
System information reading	Read the model, software version, hardware version, serial number or
System mornation reading	parameter detail information
Error record	Show the detailed Error cord if there is certain error, and could check the
	detail instructions
	Read all the checked items result of driver system in real-time status.
System self-check	Show the defects or certain Error code
	Clink the link and show Service Manual for defects
Dynamic diagnosis	Diagnose system items by drive system operating.
Deal time analysis	Show the real-time testing result of the motor or display when doing
	riding test. Such as torque, cadence, light and so on.



Concrete e report	Generate one diagnosis report after testing or apply technical support			
denerate a report	from Ananda.			
Common Faults	Show the non-electrical faults that system cannot detect directly, such			
	as noise and so on			
Product upgrade	Update firmware and parameter for motors and displays			
Historical Data	Show the diagnosis record and software upgrade record by using			
	Ananda link account.			

# 2. Preparing

### Supported operating systems

Ananda link service platform only supports Microsoft operating systems currently.

Windows version should be Windows 7 or newer version.

### 1) Supported browsers

- Google Chrome
- Microsoft Edge
- IE

### 2) Tools connection

Ananda link toolkit which is including host, power cable and data cable.

There are 2 versions of data cable. CAN and Uart cables are separated in old version.

The smaller male and female connectors are used for CAN. The bigger male and female

connectors are used for Uart system.



Picture shows data cable connect host in Fig1, then the connect statues shows like Fig2.

Fig3 shows the Ananda link toolkit that was completed.

#### 3) Outline Characteristic Illustration



Fig1







Fig3





# 4) Tools material object demonstrating

Cable: the big connector is for Uart , and the small connector is for CAN.





- 1: Connecting Box
- 2: HMI CAN connection pot
- 3: HMI UART connection pot
- 4: Controller UART connection port
- 5: Controller CAN connection port



# 3. System login instructions

# 1) Login Website

China users login website: <a href="https://cn.ananda-service.com/">https://cn.ananda-service.com/</a> European users login website: <a href="https://eu.ananda-service.com/">https://eu.ananda-service.com/</a> North American users login website: <a href="https://na.ananda-service.com/">https://eu.ananda-service.com/</a>



# 2) Login

### Apply Ananda Link account:

### Registration by scanning "Registration Code"

- Scanning the Registration Code on the surface of the Toolkit by

smartphone

- Open the Ananda Link registration interface (Fig4 )
- Fill in personal information : Name, Company Name, Email address as

login account, and Password (including at least 8-digit including number,

Capital and lowercase letter )

- Submit and register successfully
- Login the Ananda Link website by the account
- Attention: this " Registration Code" can only be scanned and registered

once, the "Right User" need to scan and register the code!





Fig4



#### Apply the login account on official website "https://www.ananda-drive.com"

- Select "service" menu  $\rightarrow$  choose "ANANDA LINK"
- Fill the blanks on "Ananda link account application form"
- Click "SEND REQUEST" button.(Fig5)
- The account and passwords will be sent to applicants mail box in one

work day if certificated.

- Input account and password, and then select "Read and agree (Terms of

Service》《Legal Notices》《Privacy Policy》".

- Click "Login" button.

https://www.ananda-drive.com/index.p	hp/service/index.html		
ANANDA	About Us * Products *	Application Innovative R&D	Service - Contact Us
No. of Contract of Contract			After-sales policy Service Network FAQ ANANDA LINK
		SERVICE SUP	(Online service platform) Apply for service

https://www.ananda-drive.com/index.php/service/index4.html

A Q 1

Company name	Applicant name
Select Country	Location
*E-mail Address	Phone number
Bicycle manufacture (multiple)	





# 3) Plug-in installation

The plug-in is used for drive system and platform communication. It is needed for plug-in automatically when login first time, or if Ananda online service platform updated. Following the following step for installation process. (Fig7).



### 4) Plug-in download issue

If you fail to download the plug-in. Need to check the internet connecting

status.

If you switch the network and check that there is no problem, it is

recommended that you wait for a while, it may be that the server is not receiving

data in time.



ANANDA	An	anda online	service platfo	orm		😵 Plug-in do	wnload failed			Common Problems	🌐 English 🛛 😶		
	Pr	oduct Diagnosis				O Dive in de	unional failed						
<ul> <li>Product Upgrade</li> <li>Historical Data</li> </ul>	S)	stem informa	tion ≒Reconne	ct		V Pilgrin do	winde talled						
3 Apply After Sales		Mot	tor Offline @			Battery 💿	iffline ③		Display	Offline ③			
		Model -		Software version -		Model -	Software version -		Model -	Software version -			
		Serial number		Hardware version -	Detail	Serial number -	Hardware version -	Detail	Serial number -	Hardware version -			
		Error record	system self-cheo	k Dynamic diagnosis	Real-time analysis		_						
	×	<ul> <li>Read faul</li> </ul>	Make sure	the battery is on		Notice Your computer isn't installed	with the add-in yet, please						
		×	×	ĸ	Serial numbe	21		Module	download and install accordin diagnosis again(if installed, pl nunning)	ng to the notice and try lease check if the add-in is	Latest time		Fault detail
						Download drive	Confirm						
							No Data						

ANANDA	Ananda online service platform					Downloads	▶ ٩ … ⋧	🕽 English 🛛
Product Diagnosis	Product Diagnosis					Tuya_ANANDA_We isn't commonly down	bsocket_X86_Install_1.0.0.14 (4).exe vnloaded. Make sure you trust	
<ul> <li>Product Upgrade</li> <li>Historical Data </li> </ul>	System information #Reconnect					Tuya_ANANDA_We isn't commonly dow     Tuya_ANANDA_We isn't commonly dow	bsocket_X86_Install_1.0.0.14 (8).exe wnloaded. Make sure you trust bsocket_X86_Install_1.0.0.14.exe wnloaded. Make sure you trust	
Apply After Sales	Motor Offine O		Battery Off	ine ③		Display	line 💿	
	Model - Software version -		Model -	Software version -		Model -	Software version -	
	Serial number - Hardware version -	Detail	Serial number -	Hardware version -	Detail	Serial number -	Hardware version -	
	Error record system self-check Dynamic diagnosis	Real-time analysis		_				
	Read faults     Make sure the battery is on		• Notice Your computer isn't installed w	ith the add-in yet, please				
	Serial number «	Module	download and install according diagnosis again(if installed, ple running)	to the notice and try ase check if the add-in is	Latest time		Fault detail	
			Download drive	Confirm				
				No Data				

Fig7

If you switch to the network and check that there is no problem, it is

recommended that you wait for a while or check your browse setting to confirm the

alert is allowed.

Otherwise, you can fresh your browse or switch to another browse, and wait

for it to pop up in the download window.





Open the popup window in the upper right corner and select keep anyway.

Then the plug-ins of our system can be downloaded normally.

#### 5) Precautions for different systems

- Ananda online service platform can connect the controller, battery simultaneously (if have battery communication), and display simultaneously for data reading and diagnosis in CAN communication protocol.
- In Uart communication protocol, Ananda online service platform can connect the controller and battery simultaneously (if have battery communication), but not allowed connecting displays. If display connected simultaneously, the system cant read the data from display. Display should be connected by separately for data reading and diagnosis.

#### 6) Connection



After login to Ananda online service platform, it will come to the Product Diagnosis page. The status connection of the three devices will change to 'Connecting' automatically (Fig8). The Ananda online service platform will automatically identify and connect all devices, which lasts for 30 seconds at most. If connection is successful in 30 seconds, the connection status will be 'Online' (Fig8). If there is no successful connection after 30 seconds later, the connection status will be

'Offline' (Fig9).

Click 'Reconnect' to try reconnecting after plugging in or out hardware (Fig10).

AUAUDA	Ananda online service platfe	orm					Common Problems	🌐 English 🛛 🌔	Ð
Product Diagnosis	Product Diagnosis								
Product Upgrade	System information #Reconne	et							
Historical Data					_				
	Motor Online		Battery Conn	ecting		Display Cor	mecting		
	Model M230-C	Software version ACT009	Model -	Software version -		Model -	Software version -		
	Serial number -	Hardware version CSM3C0 Detail	Serial number -	Hardware version -	Detail	Serial number -	Hardware version -		
	Error record system self-che	ck Dynamic diagnosis Real-time analysis						D' Genetate a repo	al.
	* Start diagnosis Make :	sure the battery is on							
	* number Module	Self-check items results Activ	ity		Help	p manual			

Fig8



NANDA	Ananda online service platfo	orm					Common Problems	🖶 English 🛛 \varTheta
Yeduct Diagnosis	Product Diagnosis							
Yoduct Upgrade Estorical Data 🛛 🛩	System information ##Reconne							
	Motor Color		Battery or	line O		Display	line O	
	Model M230-C Serial number -	Software version ACT009 Handware version CSM3CD Detail	Model - Serial number -	Software version - Hardware version -	Detail	Model - Serial number -	Software version - Hardware version -	
	Error record system self-chec	k Oynamic diagnosis Real-time analys						Generate a report
	Start diagnosis     Make s	ture the battery is on						
	Sertul Module	Self-check items Self-check results	Activity		Had	p manual		



АПАПDА	Ananda online service platfor	m					Common Problems	🌐 English	θ
Product Diagnosis	Product Diagnosis								
<ul> <li>Product Upgrade</li> <li>Historical Data </li> </ul>	System information #Reconnect								
	Motor Online		Battery Office	0		Display	Tine 🔘		
	Model M230-C Senal number -	Software version ACT009 Hardware version CSM3C0 Detail				Model + Senal number -			
	Error record system self-check	Dynamic diagnosis Real-time analysis						🕑 Generate a rep	port
	Start diagnosis     Make sur	e the battery is on							
	Serial Module * number	Self-check items Self-check Acti	vity		Help	manual			

Fig10

# 7) Product diagnosis

### - System Information

In this page there are product model, hardware version, software version, and SN

information can be checked directly on motor, battery and display (Fig11).

If need to get more detail parameters, click 'Detail' with green word. The following

list shows the information currently supported.

Module	Data	Instruction
--------	------	-------------



Model	Product model
Serial number	ID of every product
Software version	Firmware for drive setting
Hardware version	Hardware version
ODO	Total mileage
Circumference	Wheel size
Maximum Level	The quantity of levels selection
Current level 1	Maximum current limited in level 1
Current level 2	Maximum current limited in level 2
Current level 3	Maximum current limited in level 3
Current level 4	Maximum current limited in level 4
Current level 5	Maximum current limited in level 5
Level 1 maximum speed	Maximum speed limited in level 1
Level 2 maximum speed	Maximum speed limited in level 2
Level 3 maximum speed	Maximum speed limited in level 3
Level 4 maximum speed	Maximum speed limited in level 4
Level 5 maximum speed	Maximum speed limited in level 5
Devices	Chosen equipment or sensor
Model	Product model
Serial number	ID of every product
Software version	Software version
	Model Serial number Software version Hardware version ODO Circumference Maximum Level Current level 1 Current level 2 Current level 2 Current level 3 Current level 4 Current level 4 Current level 5 Level 1 maximum speed Level 2 maximum speed Level 3 maximum speed Level 4 maximum speed Level 5 maximum speed Level 5 maximum speed Level 5 maximum speed Devices Model Serial number



	Hardware version	Hardware version
	Voltage	Output Voltage
	Current	Output Current
	Full Capacity	Electric capacity
	Charge-Discharge number	Charge-Discharge times
	SOC	State of charge
	Residual capacity	Rest of electric capacity
	SOH	State of health
	Model	Product model
Display	Serial number	ID of every product
DISplay	Software version	Software version
	Hardware version	Hardware version

#### Attention:

Due to the missing of some battery data, the following may occur: model is not displayed or inaccurate, software and hardware versions are not displayed or inaccurate, SN is not displayed or inaccurate.

If a sample controller or display is used, the SN will not be displayed.





#### - Error record

This function is used to review historical faults of connected device.

Click Read faults button to review:

The serial number, module type, fault name, latest time and faulty detail will be listed on the line. (Fig12).

Click the "view" which is green word on fault detail column to review the generated

report including some information. Such as gear position and speed.

(Recent 10 history faults of motors or displays can be read)

The following table explains the detailed data of the fault:



Error code	Error detail
Date	Checking time of failure accurate to year, month, day, hour,
	minute, second.
Total number of error	Error times of failure
Level	Level at the time of failure
SOC	State of charge at the time of failure
Motor temperature	Motor temperature at the time of failure
Bike speed	Speed at time of failure
BMS temperature	BMS temperature at the time of failure
Motor speed	Motor rpm at the time of failure
Battery cell temperature	Battery cell temperature at the time of failure
Bus-current	Bus current value at the time of failure
ODO	Total mileage at the time of failure
Controller temperature	Controller temperature at the time of the fault
Phase current	phase current value at the time of fault

#### Attention:

The time information is provided by the battery. Therefore, if the battery matched by the system does not have an RTC module, the date and time when the fault occurred cannot be recorded in the historical fault.



япапра	Ananda online service plat	form					Common Problems	⊕ English €
8 Product Diagnosis	Product Diagnosis							
Product Upgrade								
👌 Historical Data 🛛 🛩	Motor Online		Battery of	ine 💿		Display	Mine 🔿	
	Model M230-C	Software version ACT009	Model -	Software version -		Model -	Software version -	
	Serial number -	Hardware version CSM3C0 Det	all Serial number -	Hardware version -	Detail	Serial number -	Hardware version -	
	Error record system self-ch							Pt Generate a report
	A Destinate Malera						1	-
	P Read faults Make su	re the battery is on						
	Serial number	Module	Fault name		Latest tir	ne	Fault detail	
	e 1	Motor	Speed sensor error		2000/0/0	0.00	View	
	2	Motor	Controller voltage error		2022/1/1	7 15:33	View	
	3	Motor	Controller communication error		2000/0/0	0:00	View	



#### - System self-check

The function will assist to read all the checked items result of driver system in real-time status. The system will diagnose the device automatically after click "Start diagnosis". The diagnosis items result will be listed on the list after self-check complete. If any item checked is abnormal, the activity and help manual are displayed. Click the link to view the help manual. (Fig13)

Sy	stem informat	tion \(\leftarrow Reconnect\)								
	Motel - Serial number -	or Online	Software version DB2301 Hardware version U5M1A*	Detail	Battery Online Model 1.0 Serial number -	Software version <b>1.26</b> Hardware version <b>1.0</b>	Detail	Display Office      Model -     Serial number -	Software version - Hardware version -	
	Error record	system self-check	Dynamic diagnosis	Real-time analysis						Generate a report
t	Serial number	Module	Self-check items	Self-check A results	ctivity		н	elp manual		
	1	Motor	Motor phase current check	Abnormal R H R	fid-motor: eplace motor lub: eplace controller		ht	tps://eu.ananda-service.com/apps/154419	97635550740519/tu	torial?id=69
	2	Motor	Motor hall sensor check	Abnormal R R	tid-motor: eplace motor lub: efer to the help manual		ht	tps://eu.ananda-service.com/apps/154419	)7635550740519/tu	torial?id=68
	3	Motor	Speed sensor check	Normal			-			



### - Dynamic diagnosis

Used to diagnose more items dynamically. When clicking "Start the test" button, the system will display the existing peripheral sensors automatically for selection what you need to check (Fig14).

After selecting in first step, there are more submenu dynamic test items for selection in second step (Fig15).

After the second selection, click "Next step" button to start the test according to the prompts on the page. In each test page, the left side will prompt how to operate and the current test steps (Fig16, Fig17).

and the right side will show the remaining time (Fig18).

The user needs to complete operation within the specified time, otherwise system will judge to diagnosis fail automatically. The test item and operation guide are displayed in the middle of page.

The data and results can be obtained directly after finishing (Fig19).



								Common Problems	English	1
Product Diagnosis	Product Diagnosis									
Product Upgrade										
Historical Data	Motor Crime			Battery	mine 💿		Display	ffine ()		
	Model M230-C	Software version ACT009		Model -	Software version +		Model -	Software version -		
	Serial number -	Hardware version C5M3C0	Detail	Serial number -	Hardware version -	Detail	Serial number -	Hardware version -		
		-							D. Committee	
	LINE INCOME STATEMENT	Dynamic diagnosis	car-trini anarysts						El Generate a	
			<b>1</b> Ce	onfirm sensors		2 Confirm to	est items			
					Cadence sensor					
					Gear sensor					
	1				Brake					
					Torque sensor					
					Throttle					
					Cancel Next step					

Fig14

Pi	roduct Diagnosis					
~	Motor Color		Battery Office @		Display	Offine ()
	Model M230-C	Software version ACT009	Model - So	ftware version -	Model -	Software version -
	Serial number -	Hardware version CSM3C0 Detail	Serial number - Ha	rdware version - Detail	Secial number -	Hardware version -
	Motor	Gear sensor check     Throttle check	Confirm sensors  Brake check  Speed sensor check	Cadence sensore ch	eck	Torque sensor check(dynamic) Motor drive check



AUAUDA	Ananda online service platform		Common Problems	English
😂 Product Diagnosis	Product Diagnosis			
Product Upgrade				
Historical Data	Motor Critica	Battery Office @	Display Office	
	Model M230-C Software version ACT009	Model • Software version •	Model - Software version -	
	Serial number - Handware version CSM3C0 Detail	Serial number - Hardware version - Detail	Seriel number - Handware version -	
	Error record system self-check Dynamic diagnosis Real-time analysis			🖪 Generate a report
	Test steps - 1/11			
	X	Speed sensor check Rotate crank forward to make rear wheel rotate Text indexes I est results		27s ime remainin
		Cancel the test. Next step		

Fig16







Fig18



Fig19



#### - Real-time analysis

It is used to capture the data of the device in real time to generate curves, so as to analyze the data of the device. Click Start analysis and select the data you want to analyze. After the selection, the system will automatically read real-time data and display it on the page.

#### - Generate the report

Click "Generate a report" words and fill in the relevant information as prompted to generate a PDF report if need. The report can be downloaded or as a failure proof for technical support from Ananda.

### 8) Product Upgrade

It is used to update the software of connected device which is including motors, controllers and displays. When connecting with green words "online" successfully, the upgrade function can be used. Click "check" button to search latest version of the software on cloud for upgrade automatically (Fig20).

If software is not in cloud, select local firmware or parameter saved on PC hardware to upgrade (Fig21, Fig22).

Click "Select firmware" and "Select parameter" buttons separately for bin file selection. After selecting, click "Upgrade" button to start. The whole upgrade process will takes a few minutes.



пяпря	Ananda online service platform	🕄 Common Problems 🌐 English 🧧
Product Diagnosis	Product Upgrade	
	Motor Display	
Product Dispress Pro- Product Upgrede Hesterical Data •	Motor One Motor Schular vision Hardware entition Autocoment     Matter	
	Semsare upgrade U	
	Upgrade parameter U Lt%33(840(01)	
	A	
	Ored	

← → C 🕯 cn.anand	la-service.com/apps/1540201286647939114
ANANDA	Ananda online service platform
Product Diagnosis	Product Upgrade
😚 Product Upgrade	Motor Display
🔀 Historical Data 👻	Motor         Model MB1-CAN         Serial number 21226001         Software version G00101         Hardware version CSM2C0         Parameter version L1-M2L10200-00         #Reconnect
	Firmware upgrade
	Upgrade parameter V Select parameter
	Upgrade



RNRNDR	Ananda online service platform							🔀 Common Problems 🚭 English	Θ
Product Diagnosis	Product Upgrade								
Product Upgrade	Motor Display								
🛞 Historical Data 👻	Motor Mass	Sanat number	Software version Hardware ve ACT009 CSM3C0	nion spleconnect					
	Firmware upgrade	• 12FF					×		
	Upgrade parameter		Document > File1 > File2 > Din			✓ δ 2 8in 1	-RR		
		1041 · #E215.0							
	Tograde	Org         Project           第15月月         第15月月           第15月月         第15月月           第10月前         第15月月           第10月前         第15月月           第15月月         第15月月           第15月月         第15月月           第15月月         第15月月           第15月         第15月月           第15月         第15月月           第15月         第15月月           第15月         第15月月           第15月月         第15月月           第15月月         第15月月           第15月月         第15月月           第15月月         第15月月           第15月月         第15月月           第15月月         第15月月           第15月         第15月           第15月         第15月     <	M ACTODI-CSMUD-ee W ACTODI-CSMUD M ACTODI-CSMIDD W ACTODI-CSMIDD-ee M ACTODI-CSMIDD-ee	90229/9214-024 20027/92214-024 20027/92214-029 20027/9711029 20022/9/1716-08	PE 部1 20年 部1 20年 部1 20年 部1 20年 部1 20年	7.77 98 42 117 45 117 45			
		21	18/0			~ BIN 文俳	~		
						¥25F(O)	824		
				Check					

Fig22



### 9) Historical data

#### - Diagnosis report

You can view historical diagnosis reports and search by time of diagnosis, diagnosis person, and diagnosis organization. Only diagnostic reports in the organization can be viewed (Fig23).

ΑΠΑΠDΑ	Ananda online service pl	atform			Common Problems   Englis	h \varTheta
8 Product Diagnosis	Historical Data / Diagnosis Rec	ord				
Product Upgrade	Time of diagnosis		The person in charge of the di	iagnosis		
Historical Data	Start date	→ End date 📋	Please enter the name of the	e person in charge of the diagnosis		
Diagnosis Record	Diagnosis organization					
Update Record	Please select diagnosis o	rganization Y	Search Reset			
	Time of diagnosis	The person in charge of the	e diagnosis	Diagnosis organization	Diagnosis report	
	« 2022-11-27 23:41:36	Service003		Ananda-Sales-Service	View	
	2022-11-24 18:16:31	Service003		Ananda-Sales-Service	View	
	2022-11-24 18:13:37	Service003		Ananda-Sales-Service	View	

Fig23

#### - Update Record

You can view the historical upgrade records of the device, including the serial number, upgrade file, version number before the upgrade, and version number after the upgrade. You can track information by serial number, product, or upgrade file(Fig24).



Product Diagnosis	Historical Data / Update Record				
Product Upgrade	Serial number	Type of product	Ungrade documents		
Historical Data	Please enter serial number	Please select the type of product V	Please enter document(s) name		
Diagnosis Record	Pre-upgrade software version number	Upgrade software version number	Time of upgrade		
Update Record	Please enter version number	Please enter version number	Start date → End date 🗒		
	The person in charge of the upgrade	Upgrade organiz	ation		
	Please enter the name of the person in cha	arge of the upgrade Please select u	pgrade organization V Search	Reset	
	~				
	Serial number Type of product Upgr	rade documents Pre-upgrade software version nur	nber Upgrade software version number	Time of upgrade The person in char	rge of t



### 4. Attentions

- In order to ensure USB power supply, the toolkit must be connected directly to the computer USB.
- When connecting the Ananda link toolkit to a PC, do not use intermediate devices such as USB hubs.
- PC must be connected to the network and kept working model, otherwise the data

sending and receiving will be suspension.