

GDFM Installation and Usage Guide

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1. Venue Transportation

Tools: Hydraulic lift

Personnel: 3 people

Method:

Transfer the GDFM wooden crate to the hotel venue using a hydraulic lift. If the freight elevator and the venue entrance are not wide enough, rotate the wooden crate 90 degrees, with two personnel lifting the opposite end.



2. GDFM Unboxing

Tools:

- 1 Phillips screwdriver (6-10mm)
- Claw hammer to pry off the black latches

Personnel: 3 people

Method:

Step 1: Use a Phillips screwdriver to remove the self-tapping screws of the clamps on all four sides



Step 2: Use a hammer to pry off each clamp



Step 3: Remove the lid of the wooden crate.



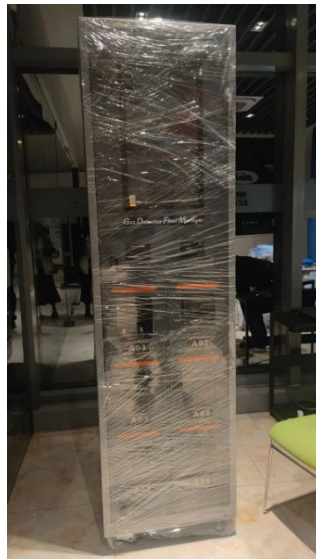
Step 4: Take out the accessories, loosen the support legs counterclockwise to release the support force, then stand the wooden crate upright to slide the entire machine out using the wheels.



Step 5: Take the entire machine out of the wooden crate and remove the outer packaging, including cardboard boxes and foam.



Step 6: Remove the cardboard box and shrink wrap.



3. GDFM Securing and Rain Shed Installation

3.1 GDFM Securing

It is recommended to install the support plate at the front bottom, even if the rain shed is not in place.

- Adjust the angle of the two front wheels of the cabinet by pushing it back and manually adjusting them, as shown in the image below. Ensure that the front wheels face forward without interfering with the installation of the fixed plate.



- Rotate the adjustable footrest at the bottom clockwise to ensure that all footrests are in contact with the ground.



3.2 Rain Shed Installation

Caution: *Installing the rain shed without securing it to the ground with stakes is dangerous. Even with a fixed plate at the bottom, there remains a risk of tipping if personnel are not careful.*

Tools:

- H6 screwdriver for top rain canopy installation
- H10 screwdriver for top support installation (black screws)
- 2 ladders
- 1 Phillips screwdriver

Personnel: 3 people

Installation Steps:

a, or the rain shed assembly, pay attention to the installation position, as indicated by the red markings in the image below: The two side panels should be installed on the side of the top cover with the drainage holes, with the 90-degree bends facing inward."



b. After assembling the rain shed, place it on top of the GDFM cabinet and align it accurately with the screw holes. At this time, one person should stand on a ladder to hold it in place to prevent the shed from moving or falling, while another person is fixing it from inside of the main cabinet.



c. Install the company logo plate using a Phillips screwdriver to tighten the four fixing screws at the front of the rain shed.



4. GDFM Electrical Inspection

4.1. Visual Inspection of the entire Device

Check whether the electrical equipment's appearance is damaged.

- 1) Display Screen
- 2) Barcode Scanner
- 3) NFC Card Reader
- 4) Three Aviation Sockets on the Back of the Cabinet

Ensure to check the above devices promptly after unboxing.

- 5) Charging Dock:

Use the emergency unlocking method to open all compartments, check the appearance of the charging dock for any damage, and ensure it is securely fixed.

Emergency Unlocking: The key and lock codes must match.



4.2. Main Control Box Electrical Inspection

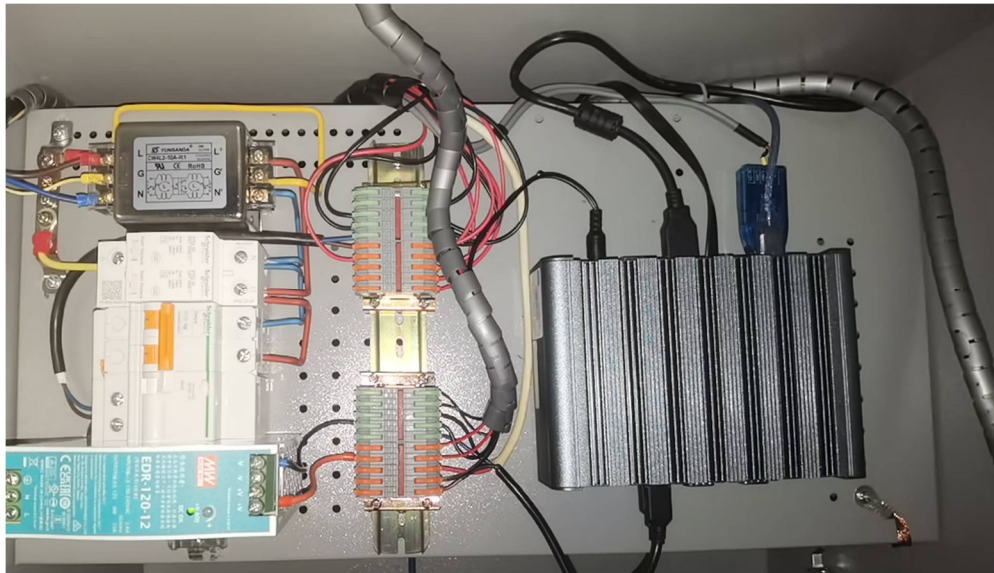
Inspection Items:

- 1) Visually inspect the EMC filter, surge protector, circuit breaker, DC switch power supply, computer host, and other electrical devices for damage or displacement.
- 2) Check for loose or disconnected wires.

- Visually check if any wires have come loose.
- Visually inspect if the terminal block has been displaced or disconnected.
- Visually check if external connections to the computer host are loose: USB, Ethernet, DC connectors, HDMI cable.
- Visually check if connections at the back of the display screen are loose.
- Gently tug on the cables to see if any connections are loose.

Photos of the inside of the main control box are shown below

Internal Equipment Platform of the Chassis



- 1) On the left: From inside out is the EMC filter, surge protector, leak circuit breaker, DC12V switch power supply. The air switch to the right is ON; the initial state of the device is ON.
- 2) In the middle: The inner side is the AC wiring terminal block, and the outer side is the DC12V terminal block.
- 3) On the right: Computer host.

Front of the computer host:

NFC card reader, barcode scanner interface.



Back of the computer host interfaces:

Touch screen, RS485, Ethernet port, HDIM for the display, power interface.



Display interfaces:

Touch screen, HDIM, power interface.



How to check:

1) Loose or Displaced Electrical Devices

Return displaced electrical devices to their positions and secure them using a cross screwdriver.

Fixing Components: The card pieces fixed with screws at both ends of the guide rail.

2) Disconnected or Loose Wire Connections

Reconnect any disconnected wires according to the internal photo of the main control box and retighten any loose wires.

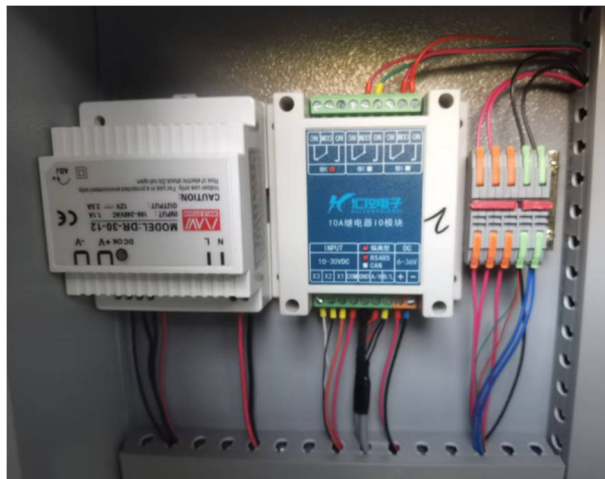
4.3. Sub-control Box Electrical Inspection

- 1) Visually inspect the 12V power supply, RS485 IO relay module, and the terminal block for looseness or displacement.
- 2) Visually check if any wires have come loose.
- 3) Check for loose wires.

Refer to the main control box inspection method for inspection methods and handling measures.

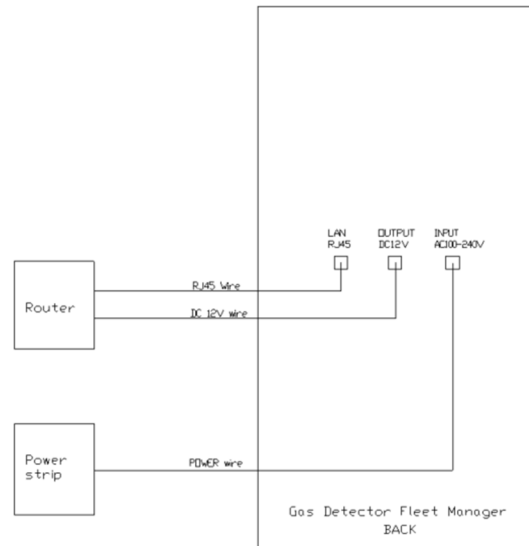


Photos of the inside of the sub-control box are shown below

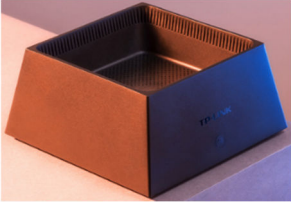


5. GDFM External Wiring Guide and Power On

5.1. Wiring Diagram



5.2. External Cable List

Item	Quantity/Length	Photo	Notes
3-Pin Plug Cable	5m		With gray metal aviation plug
RJ45 Cable	2m		With RJ45 yellow aviation plug, RJ45 connector
DC12V Cable	2m		2-core red aviation plug, DC5525 head
TP-Link AX3000 Router	1		Comes with a 12V power adapter

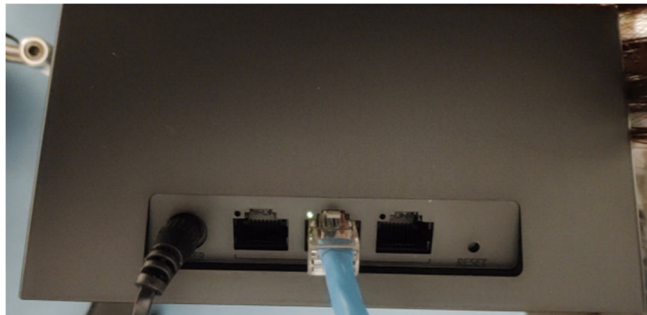
5.3. External Cable List

Three Aviation Connectors on the Back of the Cabinet

1. **Yellow Socket:** Router's network cable interface
2. **Red Socket:** Router's power interface
3. **Black Socket:** Cabinet's AC100-240V power interface



- 1) Open the Dust Cover
Rotate counterclockwise to open. The video link for opening the dust cover is as follows:
[Video\dust cover.mp4](#)
- 2) Wiring
Insert the aviation plugs into the corresponding sockets correctly and secure them. **Note:**
Please stabilize or hold the cabinet while connecting.
The connection videos are as follows:
 - **LAN RJ45 Connection:**
[Video\LAN RJ45 aviation plug connection.mp4](#)
 - **OUTPUT DC12V Connection:**
[Video\OUTPUT DC12V aviation plug connection.mp4](#)
 - **INPUT AC100-240V Connection:**
[Video\INPUT AC100-240V aviation plug connection.mp4](#)
- 3) Powering Up
 - i. Insert the RJ45 crystal head and the DC12V connector into the corresponding LAN port and DC port of the router.



- ii. Connect the power line plug to the mains power supply.

6. Power On Check

6.1. Pre-requisition

Complete the external wiring as instructed in 5.3.

6.2. Power On Check of the Main Control Box

- i. Check if the air switch has tripped.
- ii. Check if the cooling fan has started.
- iii. Check if the 12V power supply indicator on the main box is green.



- iv. Check if the computer host emits a startup beep and if the power indicator light is green.



- v. Check if the display screen shows normally.
- vi. Check if the NFC card reader and barcode scanner lights are on.



- vii. Check if the indicator lights on the cell charging dock show green.



6.3. Power On Check of the Sub-Control Box

- i. Check if the green light on the 12V power supply is always on and if there are any "hiccup" situation.



- ii. Check if the green indicator light on the RS485 IO relay module shows normal, refer to the fifth section for images.



7. System Configuration and Operation

7.1. Pre-requisition:

- Complete the External Wiring in 5.3 and Power-on check in Section 6.
- Prepare a terminal computer, such as a tablet or PC, to access the backend and configure basic data.
- Power on mains power supply and the host will automatic start up. All related programs (database, backend, frontend) will start approximately 5 to 10 seconds after the host has started up.

Otherwise, you need to press the power button of the host to make the host startup.



- It requires about 10 seconds to start up after power-off.

7.2. System Basic Data Configuration

Before using GDFM, it is required to configure basic data in the backend by using a terminal device.

7.2.1. Connect to Host Network

The terminal device must be in the same network as the host.

- If the host connect to the preset (TP-Link AX3000 Router), should connect the WIFI named **TP-LINK-EEA3** with the WIFI password **iscap@2022**.
- **If not**, check the correct wifi information where the GDFM Master Cabinet connected to.

7.2.2. Login Backend

To access the URL <http://192.168.2.100:8888/login> with a web browser using the device



There are 2 system accounts provided by default, select one to login:

Account 1: (Admin account, with all the permissions)

Username: GDFMadmin

Password: 123456

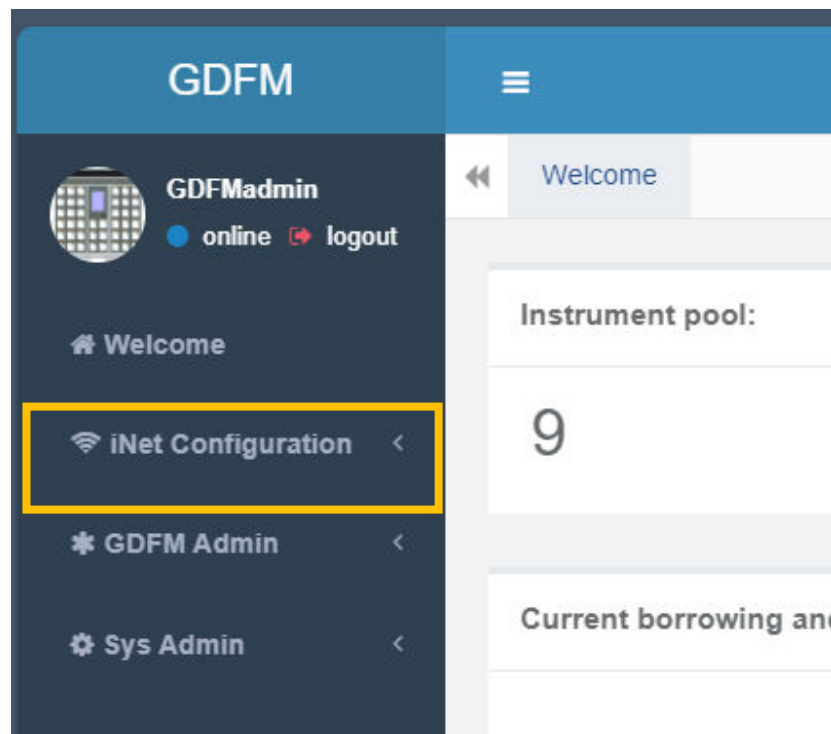
Account 2: (User Account, could not delete records)

Username: GDFM

Password: 123456

7.2.3. Add Instrument Information into the Instrument Pool

1) Adding instruments by iNet Account Sync



- **Get iNet Configuration data**

Contact the Application Engineer to get the following 5 fields for the iNet API Configuration. Here is an Example:

UserName: gdfm
password: gdfm@123456
client id: 0d979d4f-eea3-4644-bc74-b446c638e07f
client secret: 65003260-4d20-41dd-8868-d0f471076e74
account id: 00820

Edit	Export	* Non-technical personnel, please do not operate at will								
☐	typeKey	keyName	KeyVal	memo	action					
☐	Inet_Account_Key	inet_api_url	https://inetapi.indsci.com		Edit					
☐	Inet_Account_Key	inet_account	gdfm.api.test		Edit					
☐	Inet_Account_Key	inet_pwd	gdfm@123456	password	Edit					
☐	Inet_Account_Key	inet_client_id	0d979d4f-eea3-4644-bc74-b446c638e07f	client id	Edit					
☐	Inet_Account_Key	inet_client_secret	65003260-4d20-41dd-8868-d0f471076e74	client secret	Edit					
☐	Inet_Account_Key	inet_account_id	00820	inet account id	Edit					
☐	Inet_Task_Key	inet_task_switch	1	(0 Disable, 1 Enable) Synchronizing INET data switch.	Edit					

- Set the keyVal of iNet_task_switch as 1.
- Synchronize iNet data
 1. After configuring the iNet information, click [Synchronize iNet data](#) button. The instruments on the iNet will be synchronized to the table list about 10 seconds later.
 2. Verify that all the instruments listed in 《Instruments Information.xlsx》 have been synchronized to the table list.

2) Using Instrument List Management to add new instruments

I. Enter the iNet Instrument List menu.

GDFM		Welcome Inet Config Inet Instrument List						
GDFMadmin online logout		instrumentSN: equipmentCode: ALL partN						
Welcome		batteryType: ALL Search Reset						
iNet Configuration		Add Edit Remove Export Synchronize iNet data * Non-technical personnel, please do						
Inet Config								
Inet Instrument List								
GDFM Admin								
Sys Admin								
☐	instrumentSN	equipmentCode	partNumber	inetActive	lastUploadTime	softw		
☐	170600C-002	MX4	VTS-K1231100201	1	2025-01-10 18:04:33	4.30.		
☐	1804329-259	VPRO	VP5-K1231000211	1	2025-01-10 19:20:51	5.10.		
☐	18081QC-032	VPRO	VP5-W1232110211	1	2025-01-10 19:22:41	5.10.		
☐	181212H-005	MX4	VTS-K1232110211	1	2025-01-10 17:24:19	4.30.		
☐	19120VV-013	VPRO	VP5-L1231000211	1	2025-01-10 18:20:59	5.10.		
☐	2003101-019	MX4	VTS-K0032000101	1	2025-01-10 18:11:37	4.30.		
☐	220822P-051	VPRO	VP5-K1232110211	1	2025-01-10 17:57:23	5.10.		
☐	221008N-027	VPRO	VP5-L1232010111	1	2025-01-10 17:48:07	5.10.		
☐	221008N-069	VPRO	VP5-W2032110111	1	2025-01-10 17:36:22	5.10.		

II. Add Instruments

instrumentSN	equipmentCode	partNumber	inetActive	lastUploadTime	softwareVersion	lastDsSn	lastDsSnTime	bumpDueState	calDueState	batteryType	updateTime	action
23020RT-005	MX4	VTX-L000140051C	1	2023-02-07 10:45:23	4.30.03	20041PA-001	2023-02-07 10:42:14	Normal	Normal	slim battery	2024-12-31 16:22:49	Credit Remove
23031LL-001	MX4	VTX-L123140051C	1	2023-03-15 14:40:22	4.30.03	20041PA-001	2023-03-15 14:36:50	Normal	Normal	slim battery	2024-12-31 16:22:50	Credit Remove

➤ Add instrument manually:

Click button , add instruments listed according to the 《Instruments Information.xlsx》 one by one.

Example 1:

instrumentSN: 23031LL-001

partNumber: VTX-L123140051C

batteryType: slim battery

Example 2:

instrumentSN: 23110UN-001

partNumber: VPX-L1232110G1C

batteryType: extended battery

(In partNumber, the fifth digit after "-" indicates battery type: 1,4 for thin, others for thick; the seventh digit indicates pump status: 0 for no pump, 1 for with pump.)

7.2.4. GDFM Site Management

- 1) Enter the GDFM Site menu.
- 2) Edit the site with siteId 1 to match the actual site information provided by the customer.

servicePerson:

[Add](#) [Edit](#)

☒ siteId

☒ 1

Displays 1 through 1

SiteName:

ShangHai 3F Site

servicePerson:

Josh

phoneNumber:

+86-21-58993279 ext 353

email:

josh.wang@ap.indsci.com

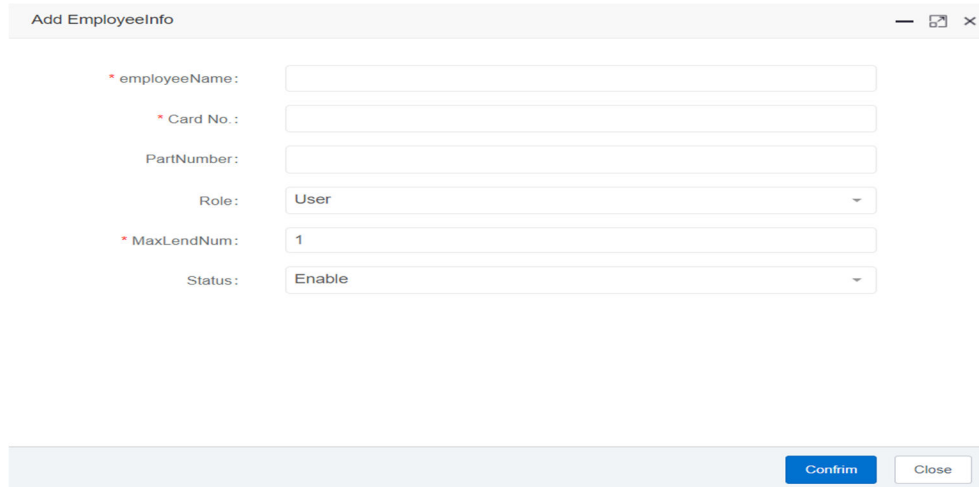
memo:

shanghai Test

[Confirm](#) [Close](#)

7.2.5. User Management

- 1) Enter the User Management menu.
- 2) Click button  and input the information.



A form titled "Add EmployeeInfo" with a title bar containing a minus, maximize, and close button. The form contains the following fields:

- * employeeName:
- * Card No.:
- PartNumber:
- Role:
- * MaxLendNum:
- Status:

At the bottom right, there are two buttons: "Confirm" (blue) and "Close" (white).

Role:

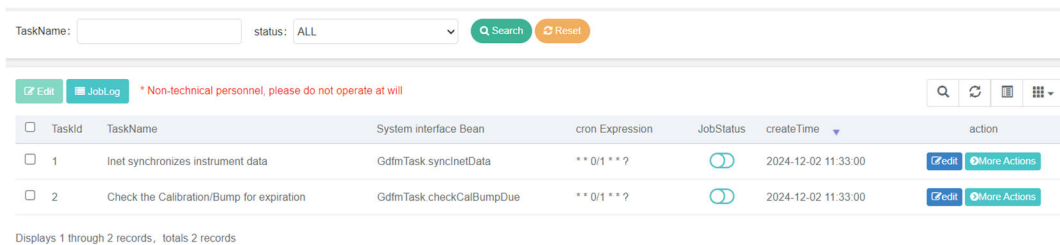
User: has the access to borrow and return

Service: has the access to borrow, return and service management.

Part Number: available instrument type for user

MaxLendNum: the maximum number of instrument that a user permitted to borrow

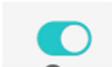
7.2.6. Schedule Task



The interface shows a search bar with "TaskName:" and a status dropdown set to "ALL". There are "Search" and "Reset" buttons. Below is a table with 7 columns: TaskId, TaskName, System interface Bean, cron Expression, JobStatus, createTime, and action. There are two rows of data. At the bottom, it says "Displays 1 through 2 records, totals 2 records".

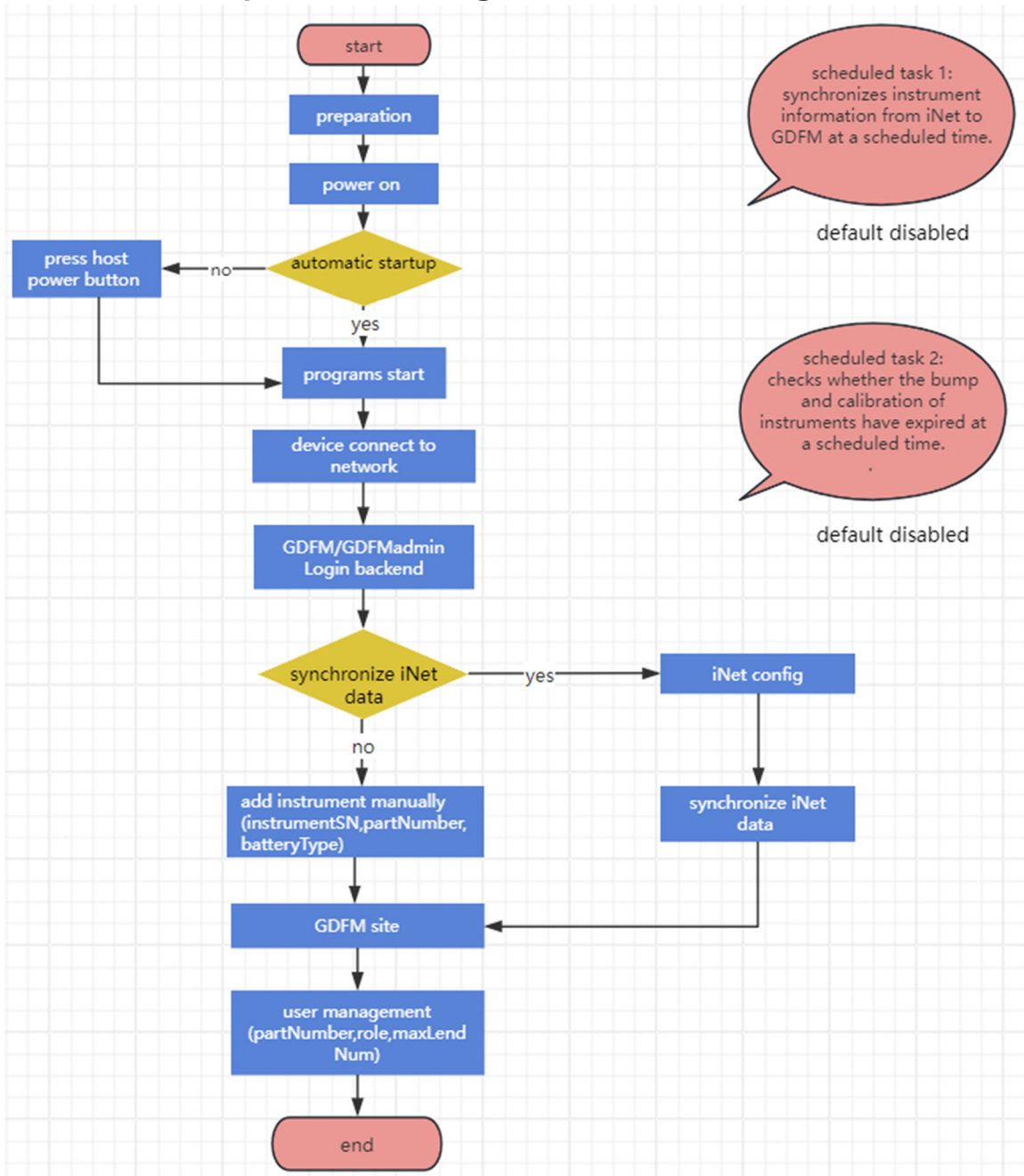
TaskId	TaskName	System interface Bean	cron Expression	JobStatus	createTime	action
1	Inet synchronizes instrument data	GdfmTask.syncinetData	** 0/1 * * ?		2024-12-02 11:33:00	Edit More Actions
2	Check the Calibration/Bump for expiration	GdfmTask.checkCalBumpDue	** 0/1 * * ?		2024-12-02 11:33:00	Edit More Actions

Scheduled tasks are all disabled. If you need to enable one, go to the Scheduled Task menu, set

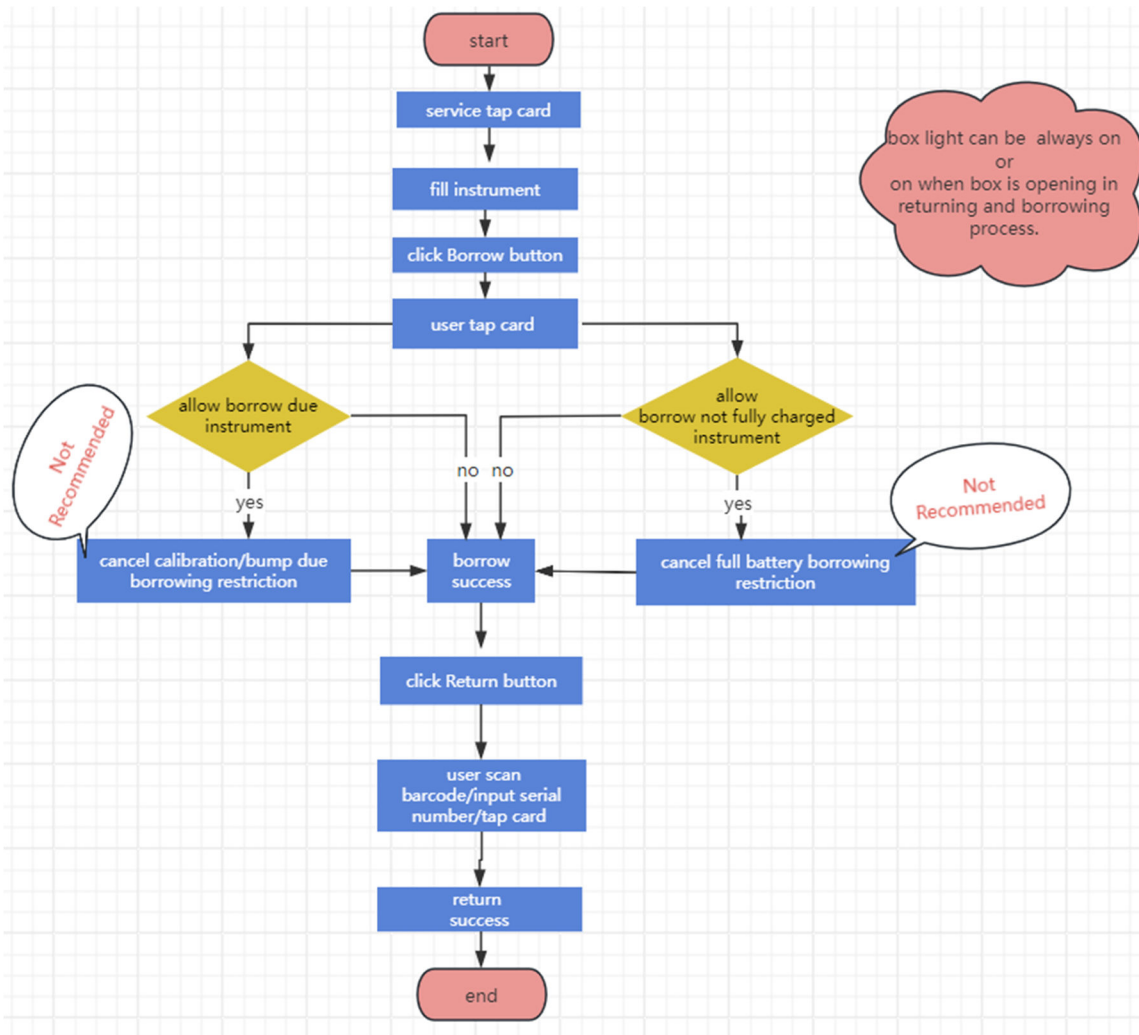
JobStatus of scheduled tasks as .

- **Inet synchronizes device data:** synchronizes instrument information from iNet to GDFM at a scheduled time, defaulting to start at 00:00 and running once every hour.
- **Check the Calibration/Bump for expiration:** checks whether the bump and calibration of instruments have expired at a scheduled time, defaulting to start at 00:00 and running once every hour.

System Configuration Workflow



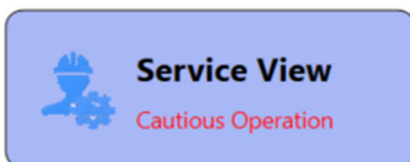
Operation Workflow



Precautions

If you have used Service View function to open the box, you must go to homepage after closing the box and wait for about 15 seconds before you do other operations to the box. Because the box will be marked as open (unavailable) after being opened in this way and resume availability after staying on the homepage for 15 seconds at least.

Service Mode



Appendix A – How to Exit GDFM Application

Exit frontend application according to the following instructions.

ShangHai 3F Site



1. Long press the icon (on the top right of the screen) until a small square icon appears.



2. Long press and wait for the square disappear, and continue to press for another 3 seconds before releasing.
3. A pop-up box appears.

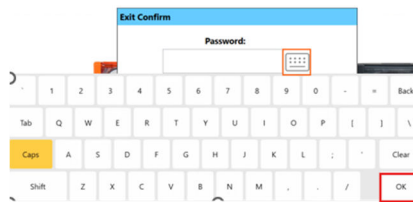
Exit Confirm

Password:

Exit

Cancel

4. Using softkey board and input the password: 123456



5. Click "OK" on the soft keyboard to exit the application.

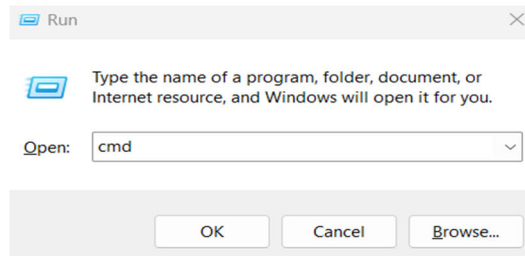


If you need help
please call: +86-21-50993279 ext 353

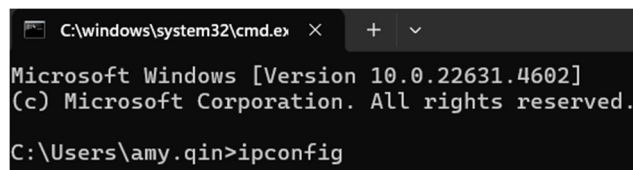
Appendix B: How to Fetch the GDFM host IP address

Verify the host's IP:

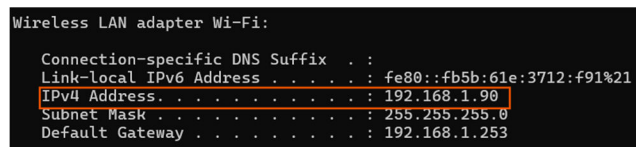
- 1) Exit the GDFM Application (Refer to Appendix A)
- 2) Click soft keyboard icon located at the bottom right corner of the screen
- 3) Press the "Win + R" key combination to open the "Run" window on the keyboard.
- 4) Type "cmd" and press Enter key to open the Command Prompt.



- 5) Enter the "ipconfig" command in the Command Prompt and press Enter to execute it.



- 6) In the returned results, find the entry labeled "IPv4 Address," and the numerical sequence beside it is the current host's IP address. Refer to the diagram below.



Replace 192.168.2.100 with IPv4 Address to access the URL.

Appendix C: System Default Values View/Modify

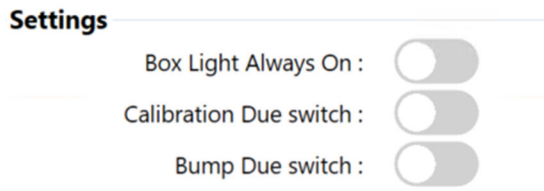
1. Router Information

- 1) WIFI Name: TP-LINK-EEA3
- 2) WIFI Password: iscap@2022
- 3) Router Address: http://192.168.2.1 (Router Management Page)
- 4) Router Password: iscap@2022
- 5) Fixed IP for Host: 192.168.2.100 (This IP is automatically assigned when connected to TP-LINK-EEA3)
- 6) Backend Program Access Address: http://192.168.2.100:8888/login

2. Calibration/Bump Due Borrowing Restriction

Instrument with Calibration/Bump Due cannot be borrowed. If you need to cancel this restriction, please choose any one of the following methods:

- Cancel the restriction in the service management section of the frontend



Modify the values of Calibration Due switch and Bump Due switch



: the Calibration /Bump Due instrument is available



: the Calibration /Bump Due instrument is unavailable

- Cancel the restriction in the Inet config menu of the backend.

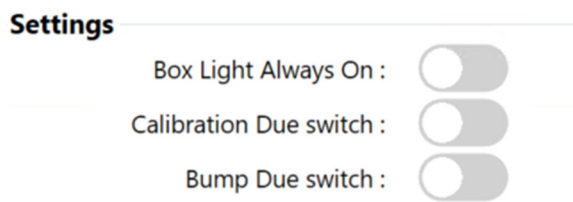
Modify the values of openbox_checkbumpdue_switch and openbox_checkcaldue_switch

☐	Open_Box_Check_Key	openbox_checkbumpdue_switch	0	(0 Disable,1 Enable) After enabling, the Bump Due device is unavailable
☐	Open_Box_Check_Key	openbox_checkcaldue_switch	0	(0 Disable,1 Enable) After enabling, the Calibration Due device is unavailable

- KeyVal equals 0: the Calibration /Bump Due device is unavailable
- KeyVal equals 1: the Calibration /Bump Due device is available

3. Box Light Mode

The mode of box light always on has been disabled . You can Modify the setting in the service management section of the frontend by changing the value of Box Light Always On.





: box light is always on



: box light is on when box is open in returning and borrowing process.

4. Full Battery Borrowing Restriction

The instrument can be borrowed when it is fully charged. If you need to cancel this restriction, please edit the following configuration file and modify the value:

C:\GDFM\GDFM_APP\0.9.4\GDFM.exe.config

➤ <setting name="CheckBatteryFull" serializeAs="String">

<value>True</value>

</setting>

- value equals True: the instrument can only be borrowed when it is fully charged.
- value equals False: borrow the fully charged instrument first. If no fully charged instrument is available, borrow the instrument that has been in the cabinet for the longest time Proprietarily.