Instruction Manual
Axpert-MCom

Android application installation and user guide
For Axpert-Eazy+ Series VFD

AMTECH

Table of Contents

PREFACE

Thank You for using “Axpert-MCom” Android application.

Now a days Android mobile platform has been a powerful competitor of mobile operating system and drawn the attention of the leading manufacturers of the industry and became a hot spot of research. The main advantage of adopting Android is that it offers unified approach to application development. Developers only need Android platform, and their applications should be able to run on numerous devices, as long as the devices are powered by Android.

Today, smart phones are very popular and handy. This application is designed to monitor Axpert-Eazy+ Series VFD from android mobile phone. It is compatible with Android version 5.0 and higher. It supports Axpert-Eazy+ Series VFD control versions 37.02 and onward. User can monitor all the parameters, current status and fault history of the VFD. The application has new material design user interface to make easy navigation.

1. INSTALLATION OF APPLICATION

- Install the latest version of "**Amtech-MCom"** application from Google Play Store (as shown in Figure 1).
- After installation finishes you will find "**Axpert-MCom**" application in application menu (Figure 2).
- Click on it and splash screen will appear. That shows Amtech Electronics (India) Limited logo (Figure 3).

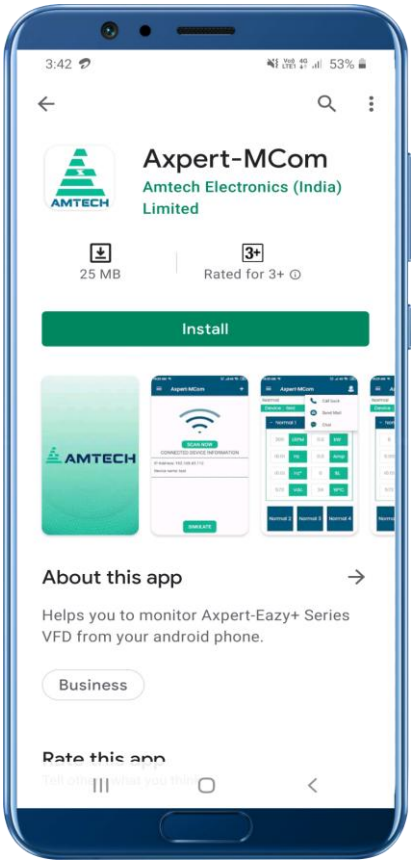

Figure 1: **Axpert-MCom** in Google Play Store

Figure 2: **Axpert-MCom** in application menu

Figure 3: Splash Screen of **Axpert-MCom** application

- When launching the application for the first time, the application asks for Terms and Conditions that the user need to accept before using this application (Figure 4). Only after accepting the condition, the user can use the application.
- After clicking the accept button, the dashboard screen will open (Figure 5). It lists all the devices connected with the application.
- Also note that, a folder named "**Axpert Mcom**" will be created in internal memory storage (Figure 6).

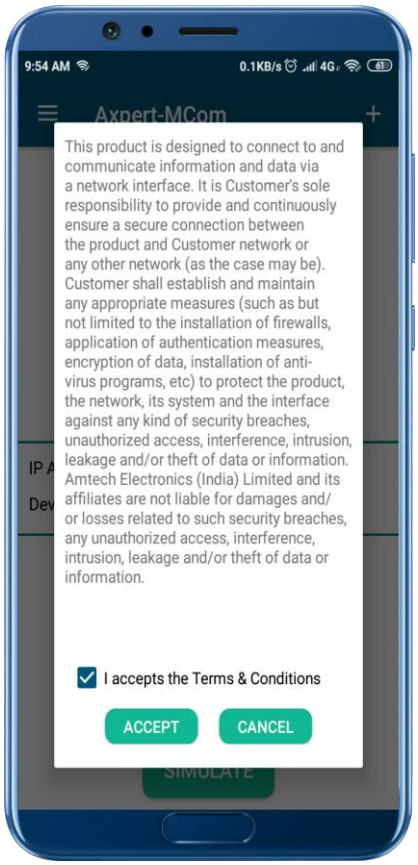

Figure 4: Terms and Condition Page of Application

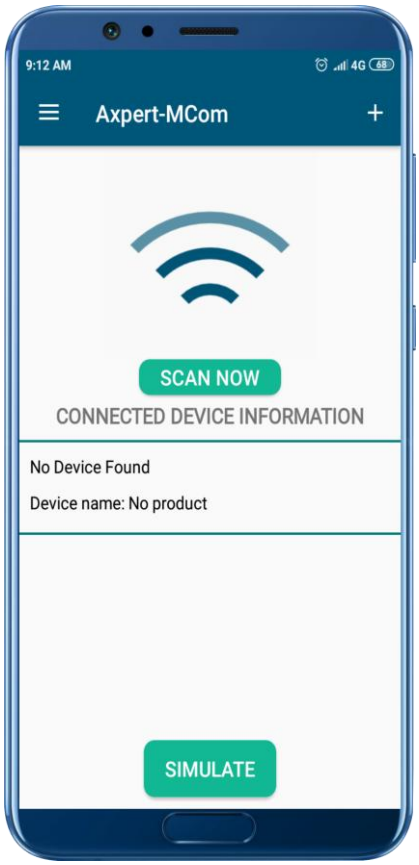

Figure 5: Dashboard of Application

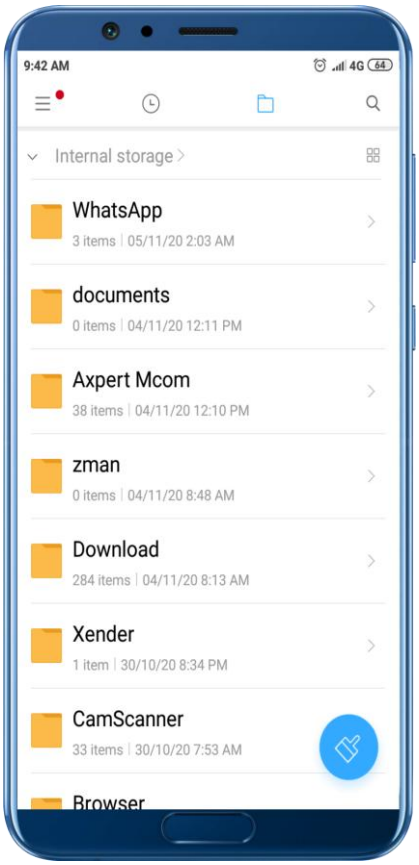

Figure 6 : Folder in File Manager

2. HOT-SPOT CONFIGURATION

- The android application uses Wi-Fi communication protocol to communicate between VFD and android application. So first we need to configure the Wi-Fi hotspot of the mobile device.
- You can navigate to hotspot configuration menu by clicking on the "+" symbol on the top right corner of the dashboard screen in the application (Figure 5).
- For product to be discovered by the application, set your Wi-Fi hotspot's SSID to **Axpert** and your password to ***Amtech@123*** (Figure 7). Changes in SSID and password are not possible.
- Now navigate through **Mode-C** of HMI on the VFD.
- Change **C507-WiFi Communication Select** to **1: Read only**.
- After configuring the above settings, the product automatically connects to the mobile device.

  (In some mobile devices, user can see in navigation bar that his mobile has been connected to 1 user)
- Now, go back to the **Axpert-MCom** application and click on **SCAN NOW** button on dashboard for the application to scan the connected devices.

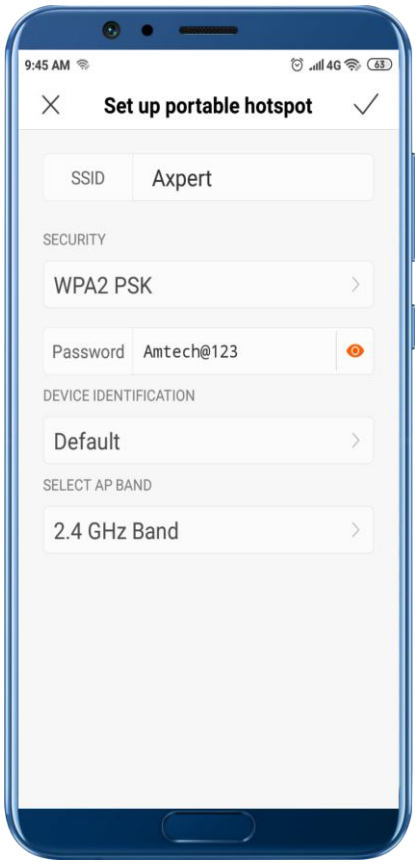

Figure 7: Hot-spot configuration

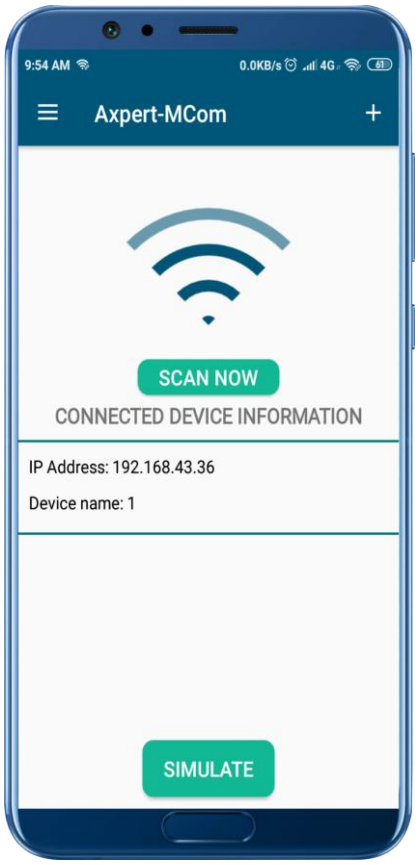

Figure 8: Connected Product Information

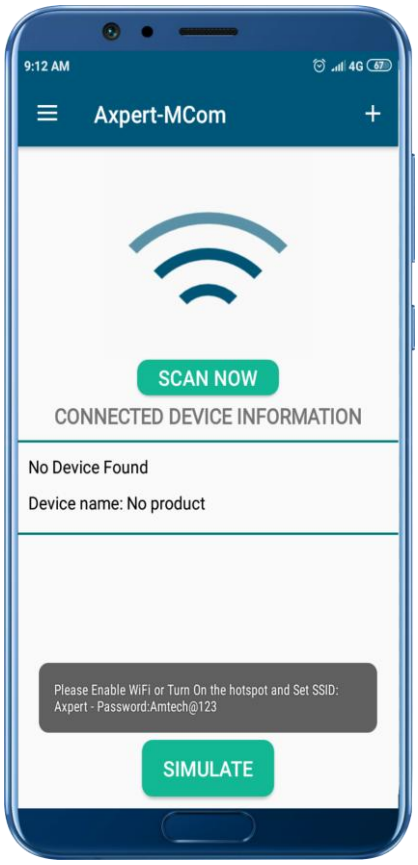

Figure 9: Warning regarding hot-spot configuration

3. PRODUCT CONFIGURATION

- A list of all the connected products will show up on your dashboard (Figure 8).
- Connected product information will show on your dashboard. If no product is connected or you have forgotten to configure the hot-spot pop-up will display to configure the hot-spot (Figure 9).

- To connect the device with the application, we need to configure the connected product. **Long press on product you wish to connect.** A dialogue box will appear to configure product name and station number (Figure 10).
- Station Name can be given as per the user choice, but the station number should be the same as that configured in the **C502 parameter** of the product HMI. Click the submit button (Figure 11).
- If we forgot to configure the station number, a pop-up will be displayed to remind the user to configure it (Figure 12).

Note: Failing to enter the matched station number, will leave your product unable to connect to the application. So always make sure to match the station number you enter with that set in C502 parameter in the HMI of the product.

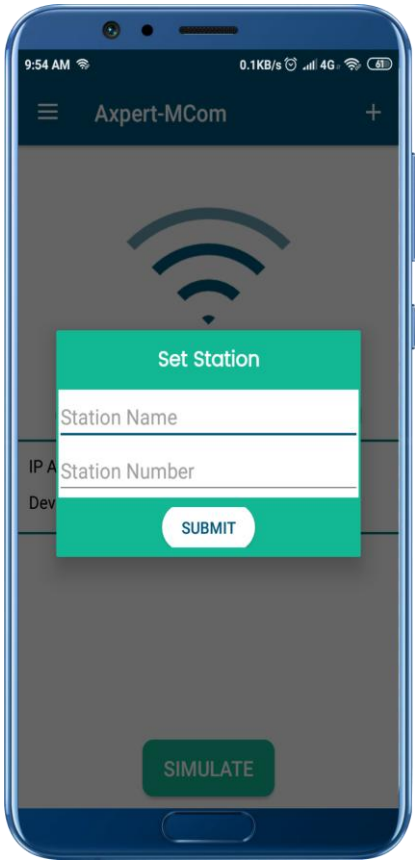

Figure 10: Product name and station number setting

Figure 11: Setting product name and station number

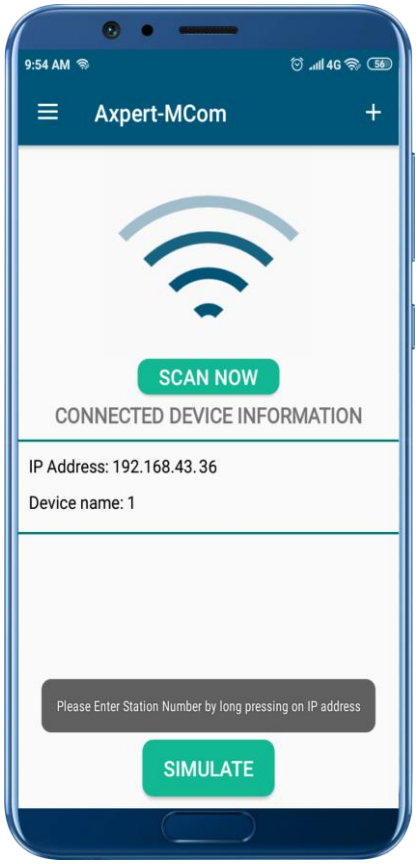

Figure 12: Warning regarding station setting

4. APPLICATION NAVIGATION

- After doing the entire configuration, click on the product shown on dashboard to connect the product with the application.
- Basically application is developed to monitor parameters of the product and also configure few parameters.
- On first time after installation, a dialogue box will appear asking for the storage permission (Figure 13). Storage permission shall be needed to download fault history and all user parameters reports. So accept it.
- Click on **Allow** button to continue communication with product.
- Normal Screen will be displayed with the current status on the top left corner. (Figure 14a).
- Apart from current status, the current motor direction status and start control method selected is also shown in the top header part of the layout.
- Moreover, whenever a fault occurs, the product status changes to fault and start to blink. On clicking the fault status, the list of current faults and warnings are displayed with brief description of the fault occurred (Figure 14b and 14c).

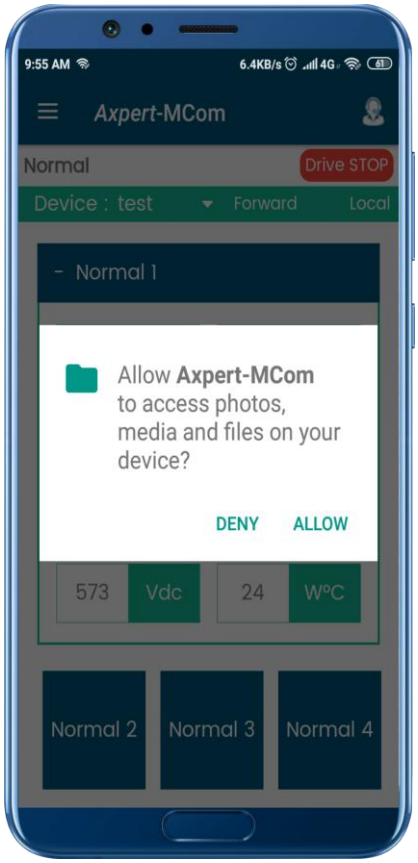

Figure 13: Application permission

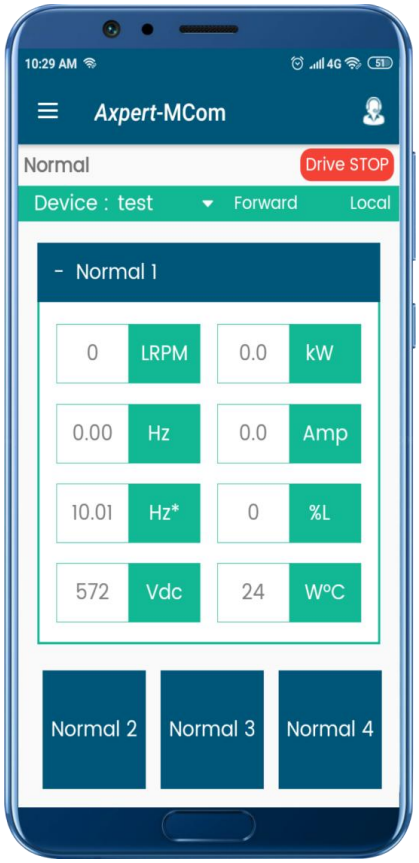

Figure 14a: Normal Screen

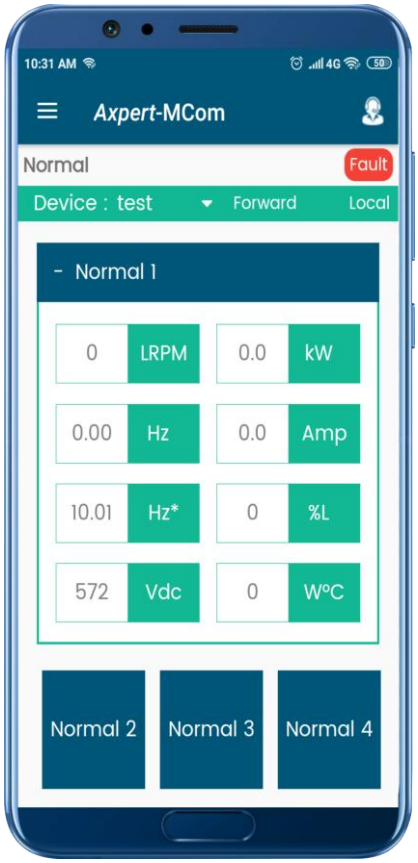

Figure 14b: Fault status

- To ease the monitoring interface, we have developed **Normal Screens**.
- These screens will display few most important parameters of the product on the front screen.

Four normal screens are available on home screen. User can navigate through them using buttons present at the bottom of the screen (Figure 15a to 15d).

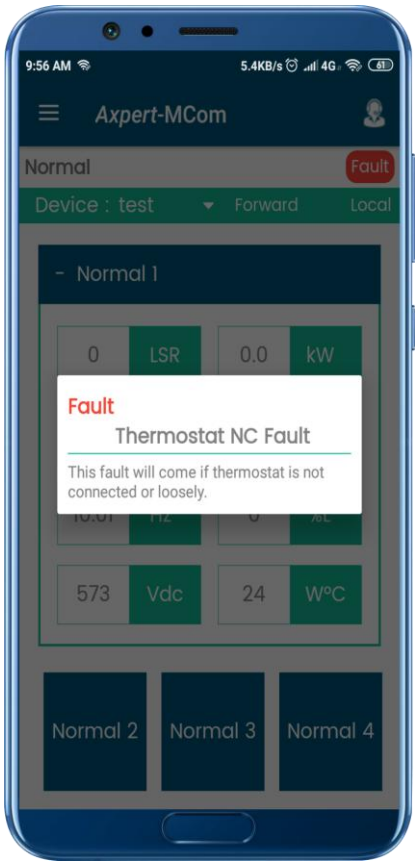

Figure 14c: Current Fault description

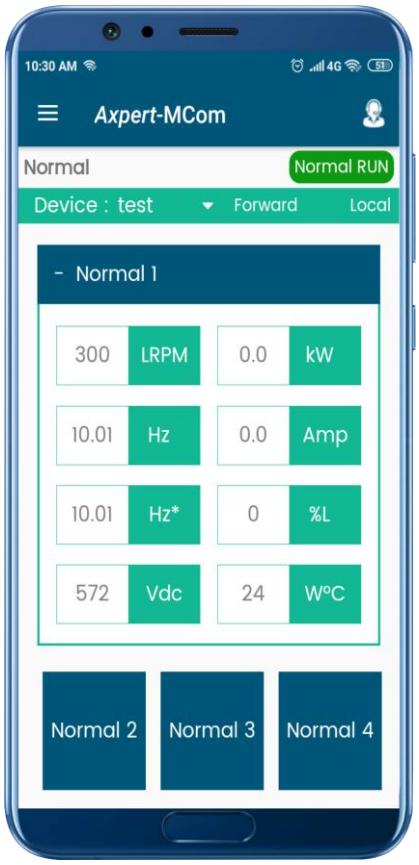

Figure 15a: Normal 1 screen

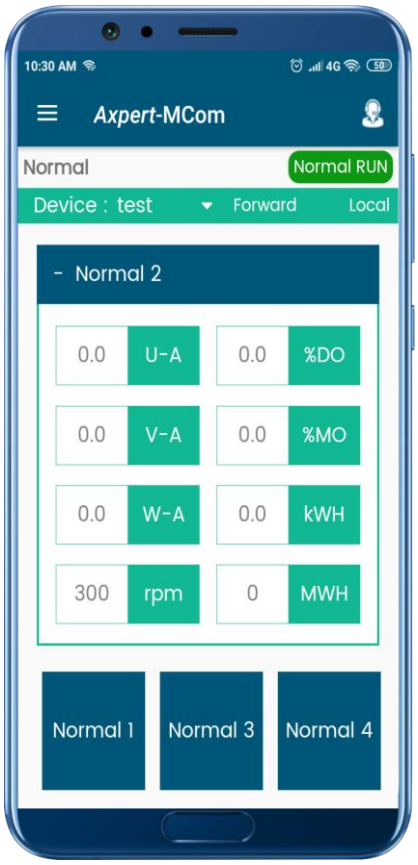

Figure 15b: Normal 2 screen

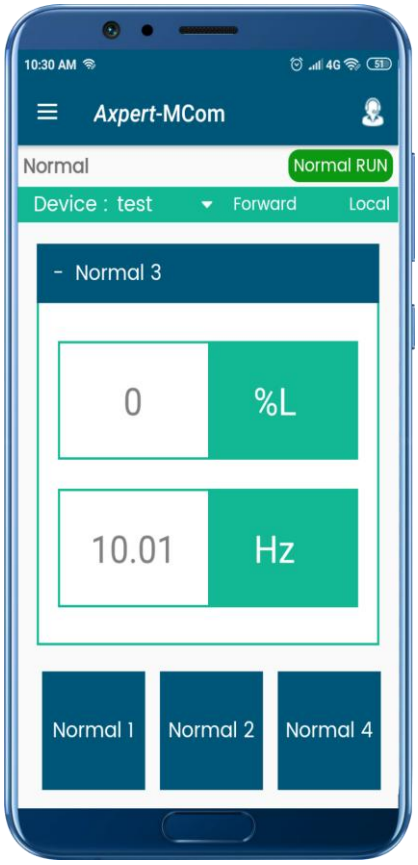

Figure 15c: Normal 3 screen

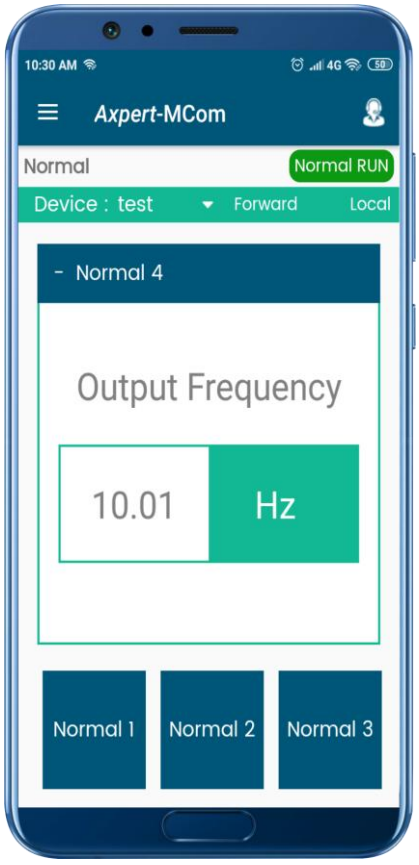

Figure 15d: Normal 4 screen

- Normal screens 1 and 2 contain eight different parameters. Normal screen 3 contains two different parameters. Normal screen 4 contains one single parameter.
- To navigate all the parameters of product. Click on the three parallel lines on the left top corner.
- A drawer will open with different options (Figure 16).

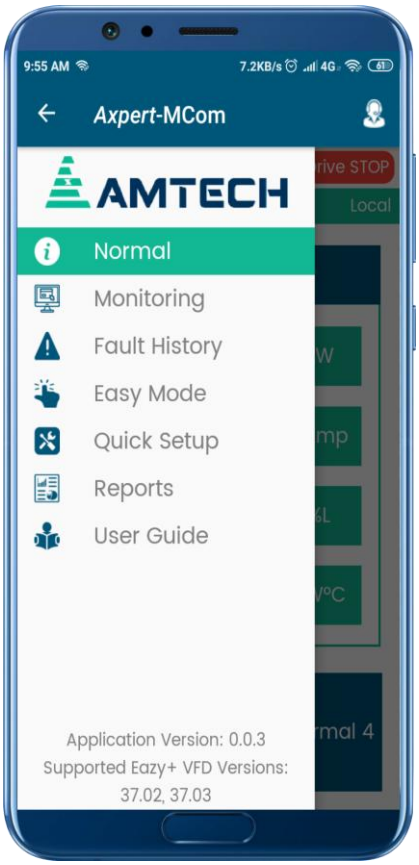

Figure 16: Navigation drawer

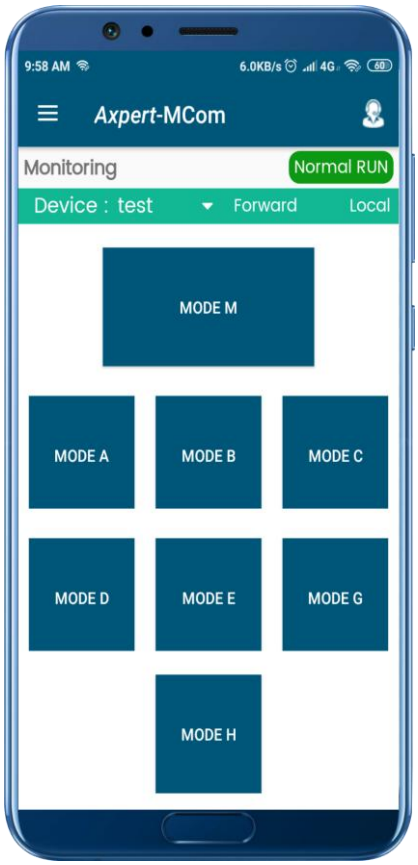

Figure 17: Monitoring Module

- Drawer contains options like **Normal, Monitoring, Fault History, Easy Mode, Quick Setup, Reports and User Guide.**
- Parameter navigation is divided into Modes and Groups. (Same as our Panel Display).
- Each group contains similar set of parameters.
- Modes are divided alphabetically.
- To view the parameters, click on the monitoring tab in the drawer. A list of all supported modes in the product shall be displayed (Figure 17).
- Click on the mode you wish to view. The selected mode with its groups shall be displayed.
- The parameters name, its value and unit can be viewed (Figure 18a).

  Note: The display version parameter in M403 shall display the version of the display module in which the parameter is being viewed. i.e when using "Axpert-MCom", it shall display the android application version (Figure 18b) and in HMI, the HMI firmware version shall be displayed.

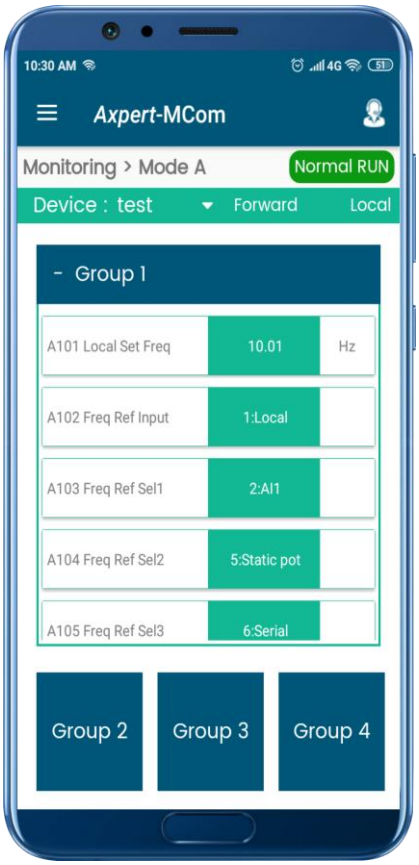

Figure 18a: Mode-A Parameters

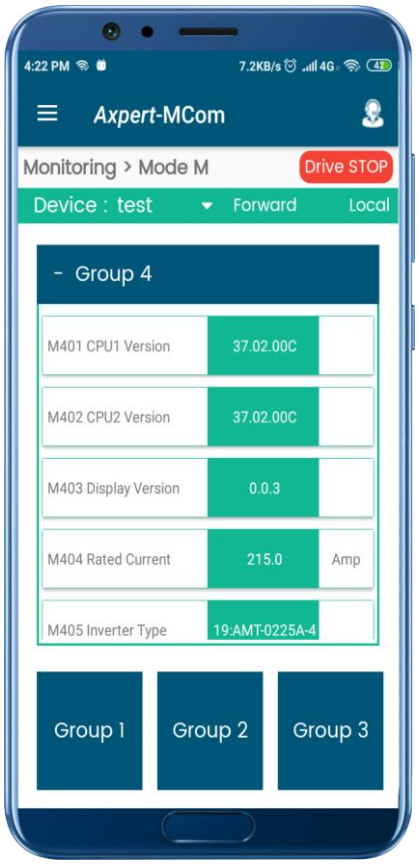

Figure 18b: M403 display's application version

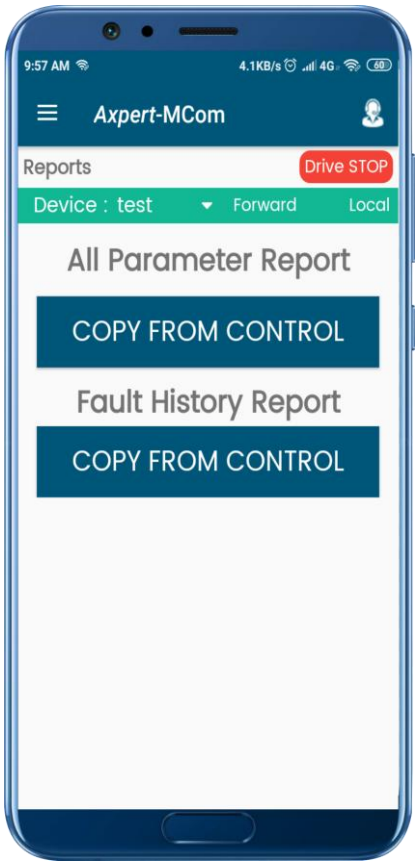

Figure 19: Reports

5. REPORTS FUNCTIONALITY

- This feature allows user to copy all parameters and fault history from the product and stored them into excel file.
- Later this file can be used to download same set of parameters to another product to configure that product to same as previous one.
- Click on navigation drawer and select Reports option (Figure 19).
- Reports screen contains options for "**All Parameters"** and **"Fault History".**
- Click on **COPY FROM CONTROL** to copy all user parameters from product. Enter the filename with which the file shall be generated in the "**Axpert Mcom**" folder created in your phone storage, after the copying operation is completed (Figure 20).
- Please wait while application copies the parameters. It takes around 30-40 seconds to complete copy operation (Figure 21). Once the copy/download operation is completed, a confirmation message is displayed (Figure 22).

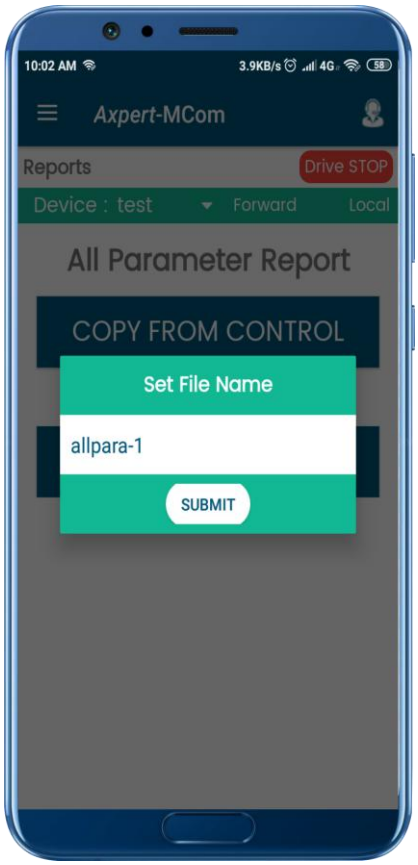

Figure 20: Enter file name for parameters

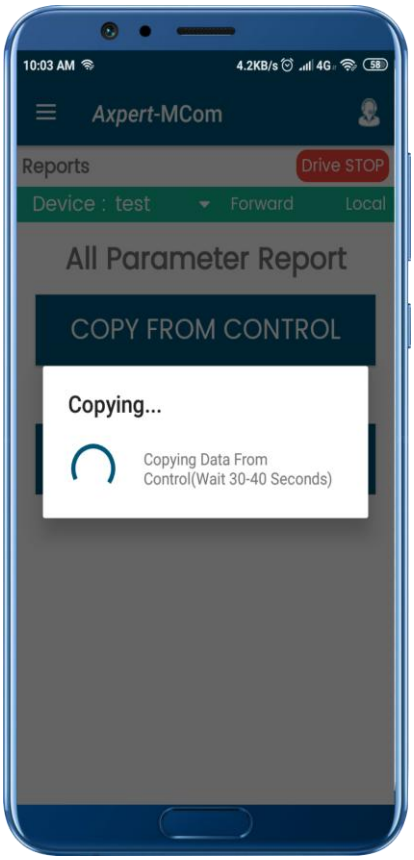

Figure 21: Copy operation in progress

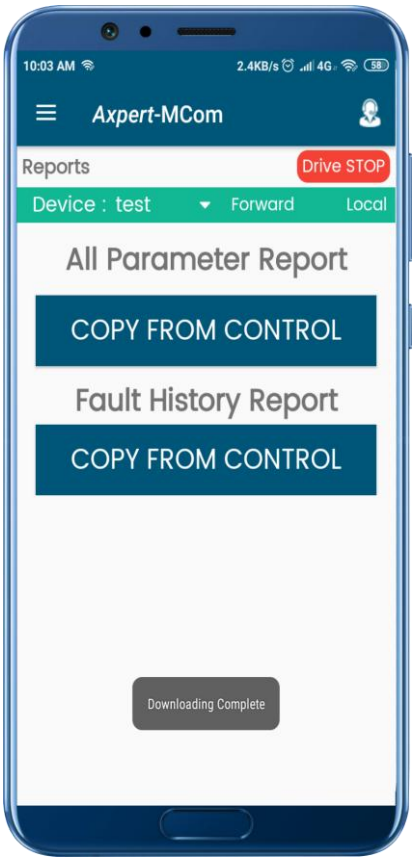

Figure 22: Copy/Download operation completed

- File will be created in "**Axpert Mcom**" folder in internal storage memory of mobile phone once the copy/download operation is completed. User can navigate using File Manager to access the file (Figure 23).
- This excel file when opened, shall appear as shown in Figure 24. It contains time and date at which file was created, the serial number, control versions of the product and the android application version used to create this report.
- To download, fault history report, click on copy from control in fault history report section. Enter the filename (Figure 25). It takes around 30-40 seconds to complete the operation.
- Fault history report, in excel format, will be generated in the "**Axpert Mcom**" folder after the copy operation is completed. The file shall appear as shown in Figure 26.

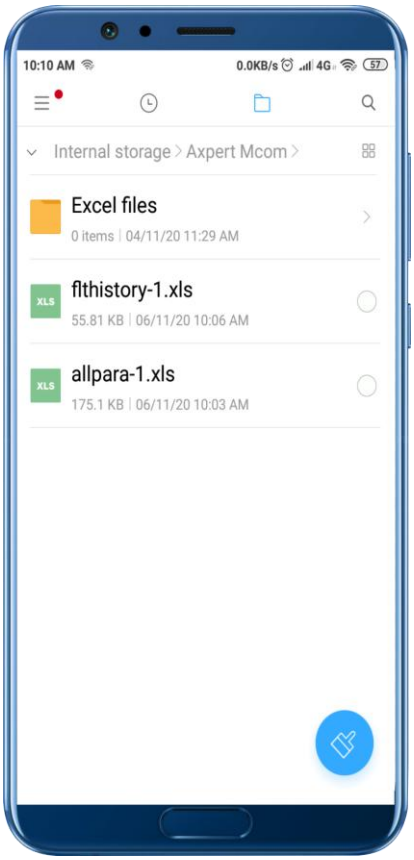

Figure 23: File in "Axpert MCom" folder

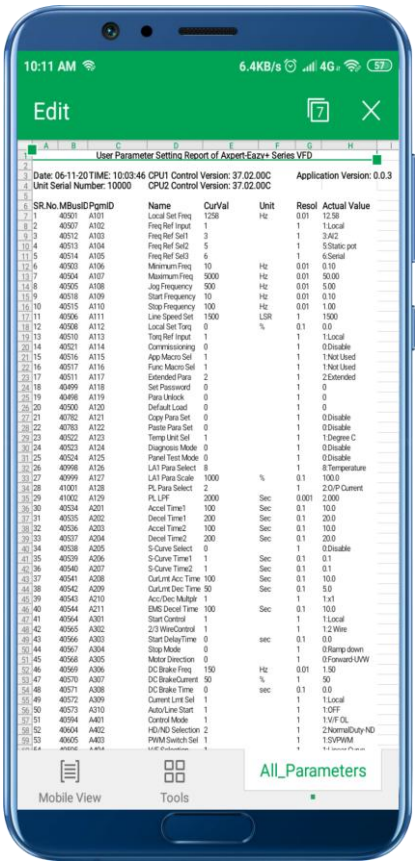

Figure 24: Copy parameter File

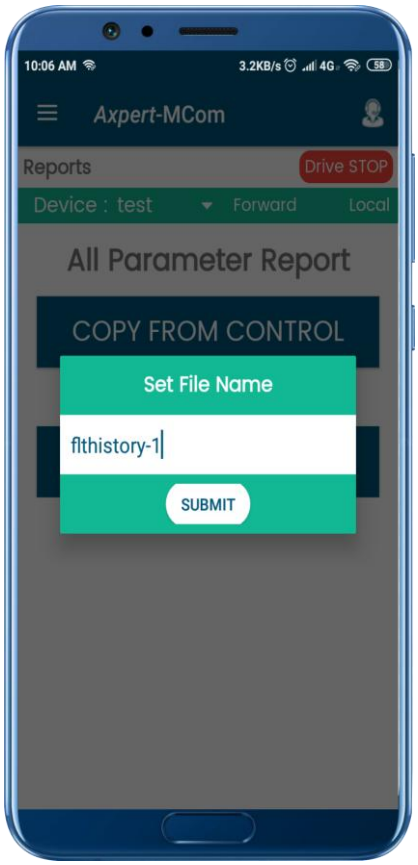

Figure 25: Fault history report filename

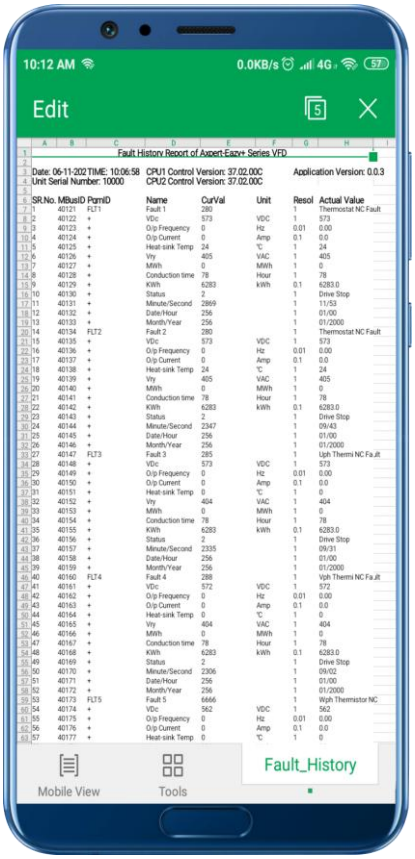

Figure 26: Fault history report view

6. EASY MODE

- For fast configuration of the product, Easy and Quick setup modules have also been implemented. On selecting the Easy mode, the entire commonly configurable parameters list shall appear (Figure 27). User can set these parameters from here itself rather than navigating to individual modes and groups.

7. QUICK SETUP

- For fast and easy commissioning of the product during installation, a Quick setup module had been implemented.
- **Navigate through side drawer** and select **Quick Setup** option.
- In Quick setup section, individual parameters are displayed with their min, max, default and current value (Figure 28). Press next to navigate through different parameters.
- To update the value in the control, Set the value and then press submit to update the value in the product. Without pressing submit button, the set value won't be updated in the product.

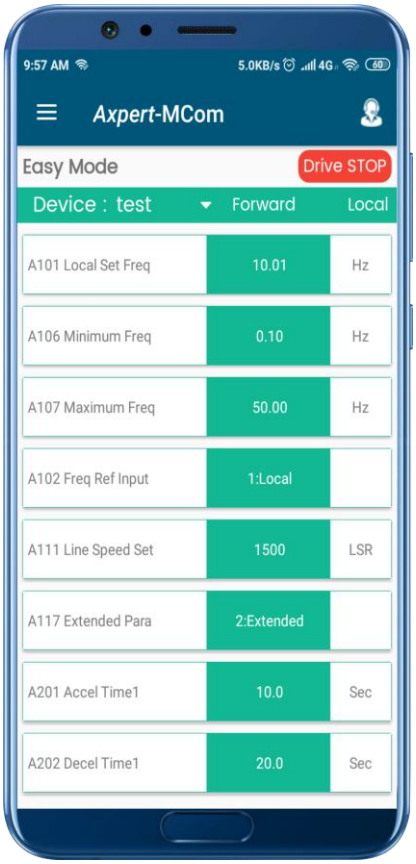

Figure 27: Easy Mode

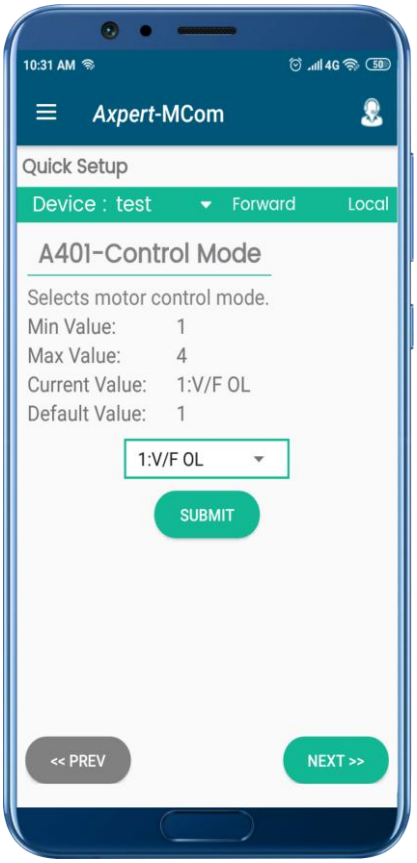

Figure 28: Quick Setup

8. FAULT HISTORY

- For better convenience, a direct access to the list of faults had been implemented.
- **Navigate through side drawer** and select **Fault History** option.
- The list of faults shall be displayed. User can view **fault history with 8 different parameters along with the time and date when the fault had occurred** (Figure 29).

9. CALL BACK, SEND EMAIL AND CHAT FUNCTIONALITY

- As a part of quick and convenient service support, the application has call back, send email and chat functionality.
- The user can select the required functionality from the top user icon as shown in figure 30.
- The chat functionality is implemented using whatsapp.
- The email functionality diverts the user to the email composition application present in the user mobile.
- The call back makes a call to Customer Service department of Amtech Electronics (India) Limited.

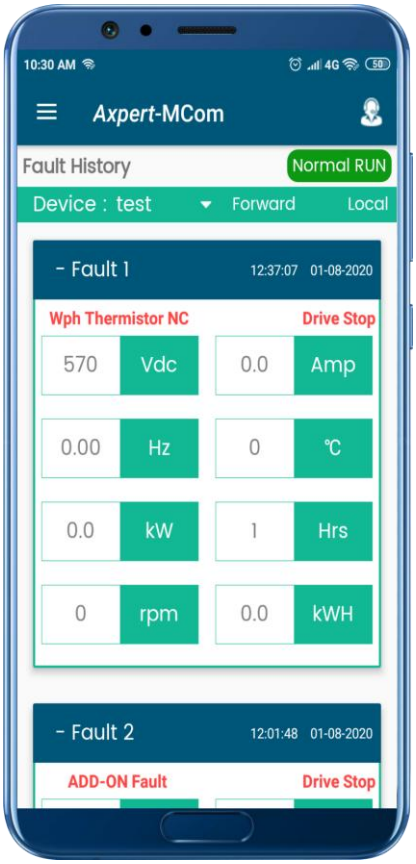

Figure 29: Fault history view

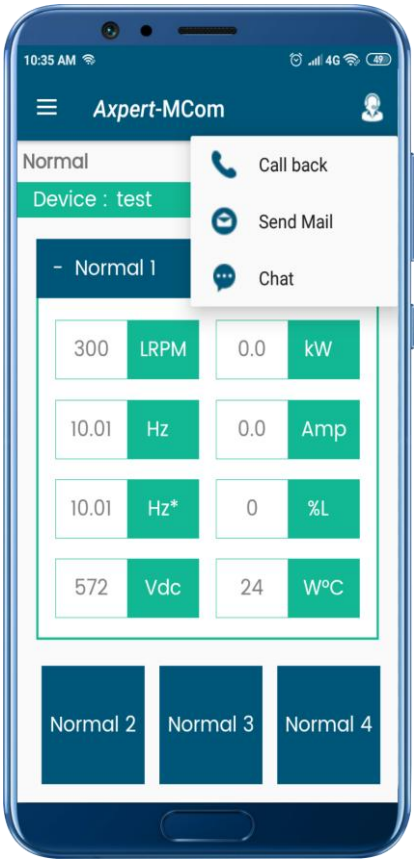

Figure 30: Call back, send email and chat options

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