DRC-006
USER GUIDE

www.vpstart.com

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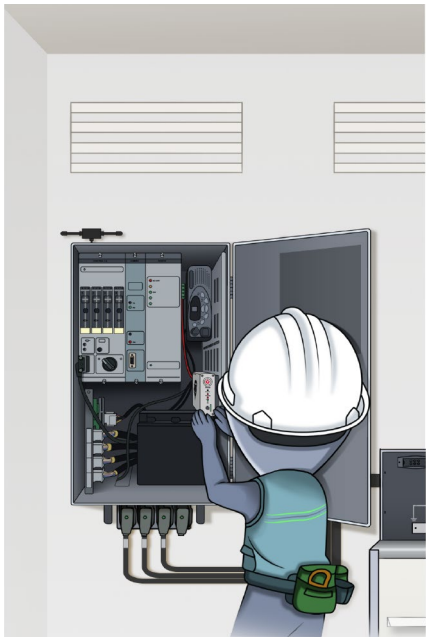
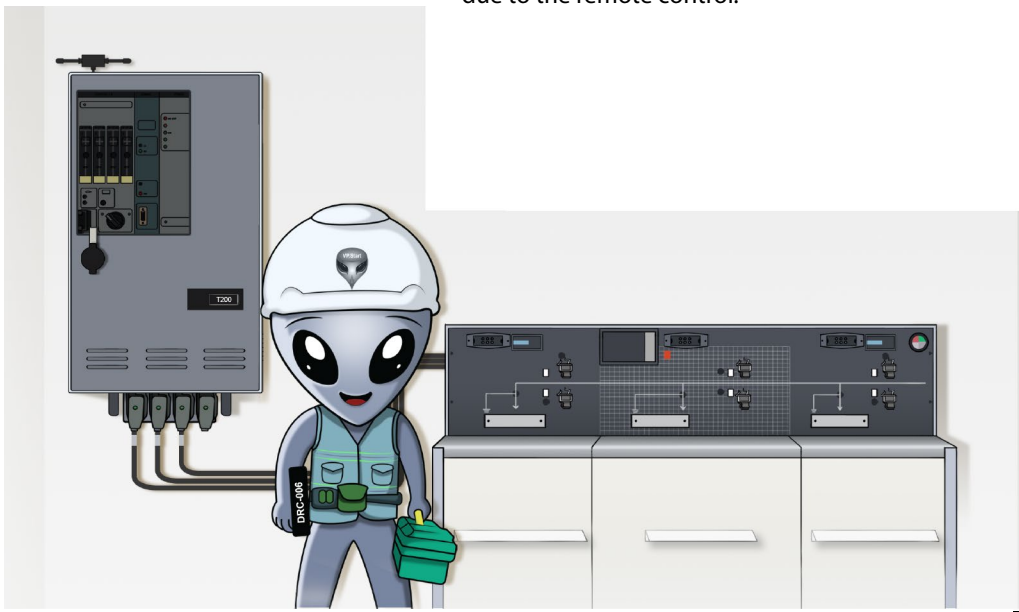
INTRODUCTION



The DRC-006 is a smart controller for the Schneider Remote Terminal Unit (RTU Easergy T200i). This DRC-006 controller effectively supports operators due to its monitoring, alarm, report, and control capabilities over medium-voltage distribution network operation (22kV & 35kV). The DRC-006 can be managed and monitored via smartphone (Android) & RPM Grid (PC) applications securely over the GSM & GPRS networks, as well as standard call management for all of our DRCs. Operators using the DRC-006 stand to benefit from reduced power loss and better, faster management of power distribution systems to achieve greater user reliability. In addition, the enhanced capabilities through our DRC-006 "Smart-Controller" for the Schneider RTU T200i not only provide impressive results in increasing power reliability and reducing power loss on the network, but they also increase security for the maintenance team due to the remote control.

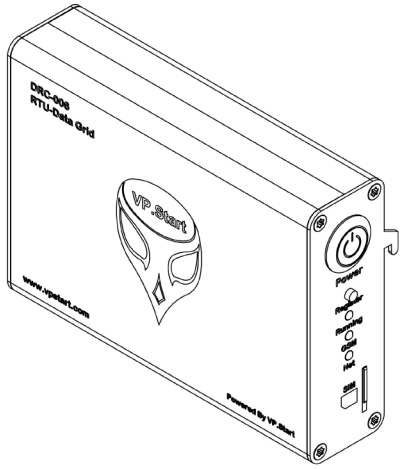


PRODUCT OVERVIEW

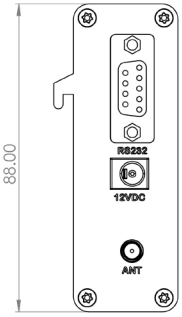
DRC-006 BOX PACKAGING

DRC-006 DEVICE

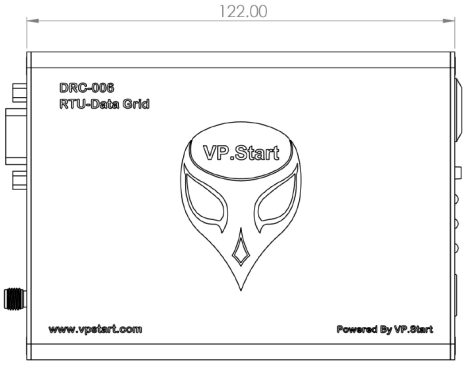
HARDWARE DIMENSIONS



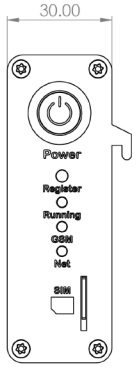
3D View



Side View



Front View



Side View

SPECIFICATIONS & FEATURES

Description	Specifications
Remote Control Unit	
Remote Control for RTU (Schneider T200i)	Remote Controller via Smartphone for RTU (Schneider T200i) & can be configured to RPM Grid Software.
Supply Voltage Range	12 - 14 (Vdc)
Operation Temperature	0 to 65 ºC
Ambient Temperature Range	-10 to +70 ºC
Operating Humidity	30 to 95 (%)
Communication Interface	• Serial (RS232). • GSM Communication. • GPRS Communication.
Status LEDs	• System Running: Blinking 1s. • System Power: Red LED is ON. • System Network: Green LED Flashing.
App & Software Tools Interface	• PC application: RPM Grid Software Solution. • Mobile Application: DRC-006 Android App.
Remote Control Functions & Features	
Control Functions:	
Switchgear Control Ability	Capable to Remote Control up to 4 Units of Switchgear.
Switchgear Control	Remote Control OPEN/CLOSE
Monitoring Features:	
Current Line	Yes

SPECIFICATIONS & FEATURES

Switchgear Position Status	OPEN/CLOSE/Ground
Feeder Status	Normal/On-Fault
Feeder Fault Indicator	Phase-Fault/Ground-Fault
Control Mode	Local/Remote
Switchgear MV Presence Monitor	Yes
RTU Time & Date	Yes
Battery Fault Status	Yes
AC Supply Status	Yes
GSM Signal Strength (1-30)	Yes
Controller Location on Map	Google Map View
Setting Features:	
Tracking Abilities	Controller ID, Name, Coordinate, Serial Number
RMU Switchgears Profile Configuration	(Enable/Disable SWs in the DRC-006 App/ RPM Grid).
MV Absence Alarm	Enable/Disable
AC Source Supply OFF Alarm	Enable/Disable
Feeder Fualt Alarm	Enable/Disable
Internet Data Reporting Access	Enable/Disable

Data Upload Timer	OFF/15mins/30mins/60mins
Software Management:	
Controller's User Management	Add / Remove user View all users
User Level/Position	Admin/User
Controller Balance	Check/Top-up via Special Dialing Code.
Controller Management	Add / Remove controller Name / Rename controller Add / Remove controller's profile picture View all controllers.
Alarm Notifications:	
Switchgear MV Absence Alarm	Yes
AC Source Supply OFF Alarm	Yes
Switchgear OFF Alarm	Yes
Feeder Ground Fault Alarm	Yes
Feeder Phase Fault Alarm	Yes
Reporting & Event log:	
User Switchgear Control Event Logs	Yes
RTU Event Logs	Yes
Call Control Functions	
Key Tone Control Features:	

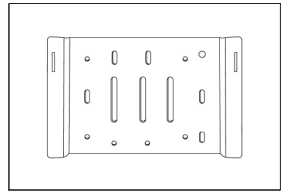
SPECIFICATIONS & FEATURES

Read Switchgear Position	OPEN/CLOSE/Ground/Switch not Connect
Call Control Switchgear	Control Switchgear OPEN/CLOSE
Feeder Current Measurement	Read Feeder Current Measurement (Amp)
Language & Voice Support:	
Language	Khmer
Call Control Instruction Sound Track	Yes
Physical Specification & Installation:	
Controller Dimension	H=88mm x L=122mm x W=30mm
Controller Weight	200mg
Mounting & Installation	The Remote Control (DRC-006) is connected & mounted inside the RTU T200i Cabinet.

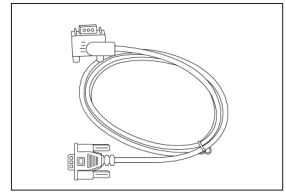
INSTALLATION INSTRUCTIONS

ACCESSORIES

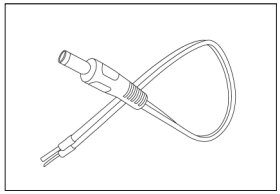
DRC-006 Controller (1pc)



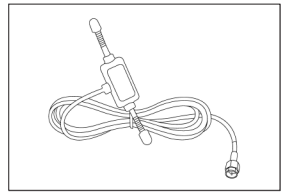
Controller Support (1pc)



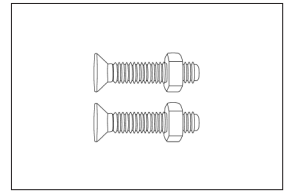
Serial Cable (Female to Female) (1pc)



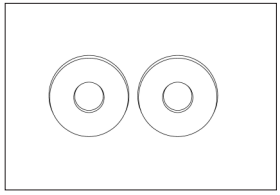
DC Power Cable (1pc)



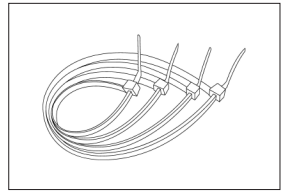
GSM Antenna (1pc)



Screw + Nut (M4*15cm) (2pcs)

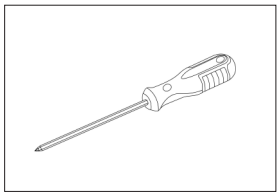


Flat Washer (2pcs)

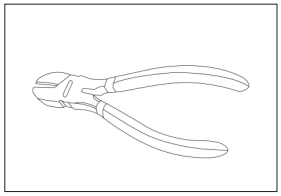


Cable Tie (6pcs)

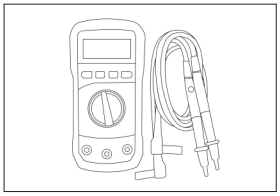
SUPPORTING TOOLS



Screwdriver PH2



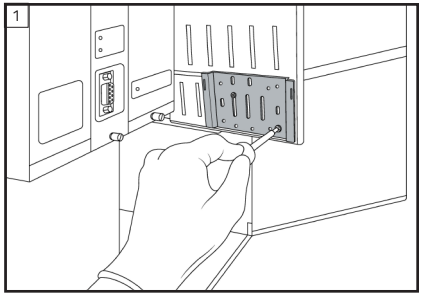
Diagonal Cutting Pliers



Multimeter

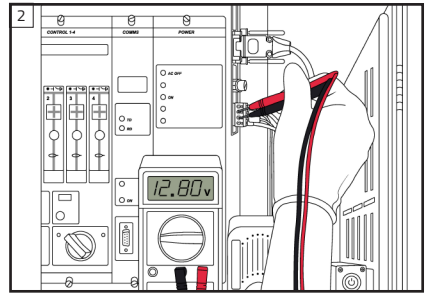
CONTROLLER INSTALLATION PROCESS

1



Mount the controller support on RTU T200i Controller Support Panel.

2

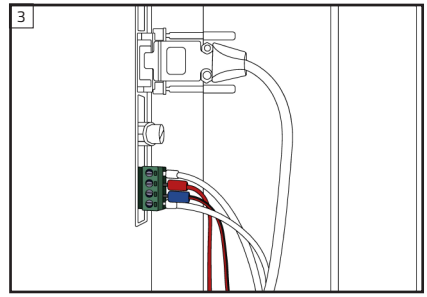


By RTU T200i DC Supply Connector, check the voltage through 12V (+) and 12V (-).

⚠ NOTE

- The suitable voltage shall be 12VDC to 14VDC.

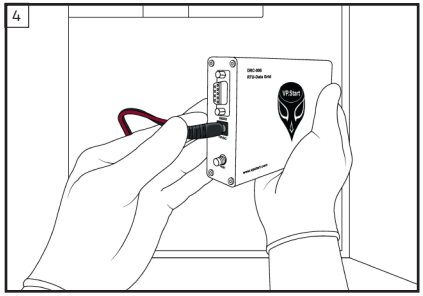
3



Connect DC Power Cable by the Red Cable to 12V (+) and Black Cable to 12V (-).

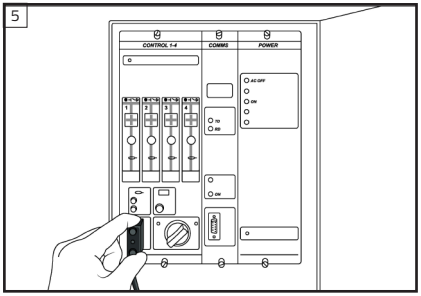
INSTALLATION INSTRUCTIONS

4



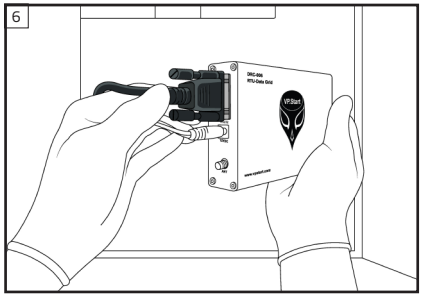
Then connect to the 12VDC port on DRC-006 Controller.

5



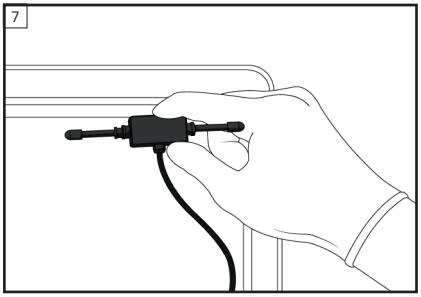
Connect Serial Cable to RS232 port on RTU T200i Controller.

6



Connect Serial Cable to RS232 port on DRC-006 Controller.

7

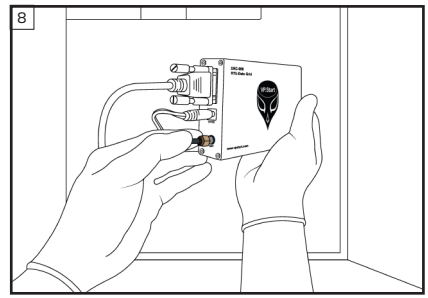


Install GSM Antenna to the appropriate area on site.

⚠ NOTE

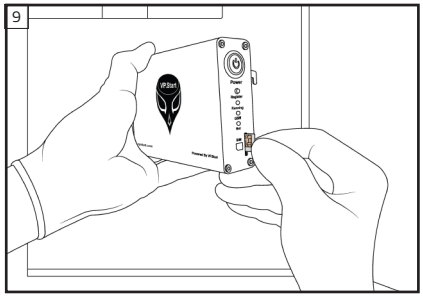
- The area that allows the antenna to get better signal strength.

8



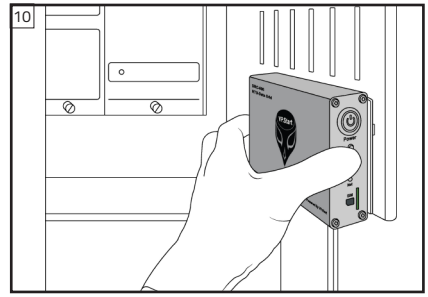
Then connect to the ANT port on the DRC-006 controller.

9

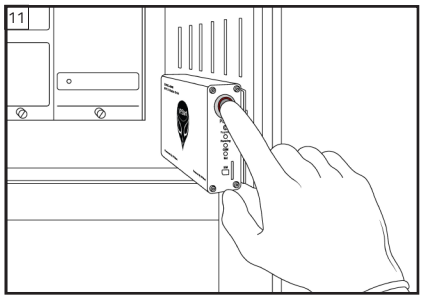


Insert SIM (micro) into SIM Slot on DRC-006.

10



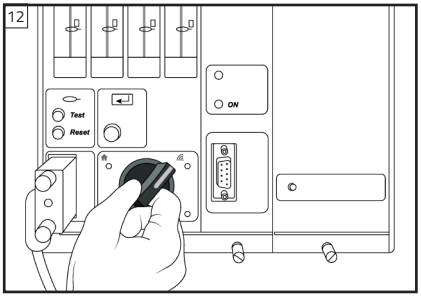
Mount the DRC-006 on the controller support.



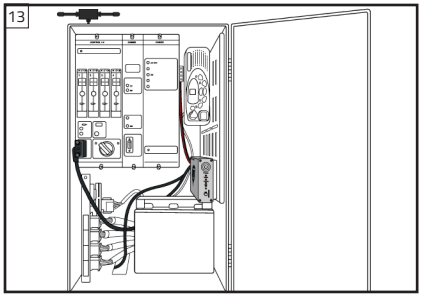
To start up the DRC-006, by pushing the Power button.

⚠ NOTE

- The DRC-006 is running normally if the running LED is blinking every 1s.
- The GSM connection is Good if Net LED flashing every 3s.
- The GSM Module is Okay if GSM LED is ON.



DRC-006 works on both Local/Remote mode.

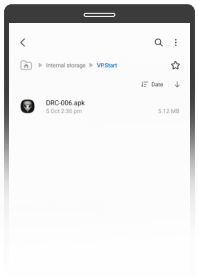


DRC-006 installed with RTU T200i Controller.

APP USER GUIDE

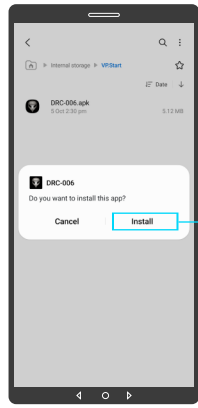
Mobile Phone Interface Usage

01 How to Install DRC-006 App on Smartphone



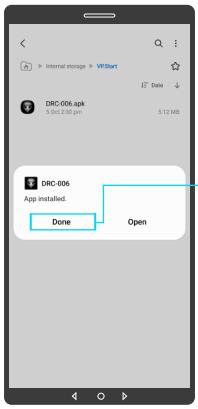
Click on "DRC-006 .apk" to install.

Fig | 01



Click on "Install".

Fig | 02



Click on "Done" to finish.

Fig | 03

DRC-006
App installed.

Fig | 04

02 Create User Account

Fig 05

Click on "DRC-006 App" to open App.

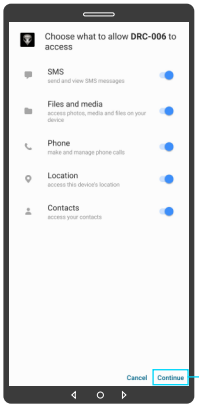


Fig 06

If the system pop up allow DRC-006 to access.

Then click on "Continue".

Fig 07

Create User Account login interface.

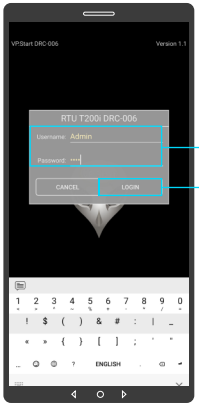


Fig 08

Create: Username and Password.

Then click on "LOGIN".

Fig | 09

NOTE

When installing the DRC-006 smartphone application for the first time, users will have to register the first DRC-006 controller before they can access other functions.

Fig | 10

NOTE

After the first controller is registered, users can access other functionalities as showed in Fig. 10.

03 Login to App

Fig | 11

Click on "DRC-006 App" to open App.

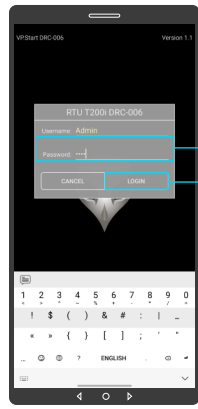


Fig | 12

04 Service

Fig | 13

DRC-006 App functions.

Fig | 14

Click here to view "Help, Service and Exit".

Fig | 15

After the device(s) has been registered. Alarm service is enabled by default. To stop it, click on Stop service to stop receiving automated alarms from the controller through the smartphone app.

Fig | 16

Alarm service is not running when your smartphone has not enabled DRC-006 alarm service as shown in Fig. 16.

Fig | 17

To start alarm service. Click to view "Help, Service and Exit".

Click on "Start service" to start receiving automated alarms from the controller through the smart-phone app.

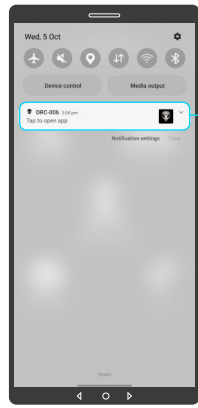


Fig | 18

Alarm service is running when your smartphone has enabled DRC-006 alarm service as shown in Fig.18.

05 Adding Users

Fig | 19

Click to open "Add User".

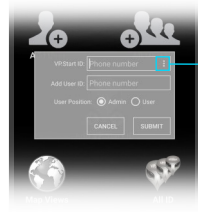


Fig | 20

Click here to view all VP.Start ID (Phone Number).

Click to choose a VP.Start ID.

Fig 21

Fig 22

⚠NOTE

Scroll up or down to view more VP.Start ID.

VP.Start ID chosen.

Fig 23

Write user phone number in "Add User ID".

Choose user position as Admin or User.

Click on "SUBMIT" and confirm by "OK" button.

Fig 24

Fig | 25

NOTE

- The application will display "Done" as a pop up notification to confirm the registration of the new user into the system for a specific controller.

06 All Users

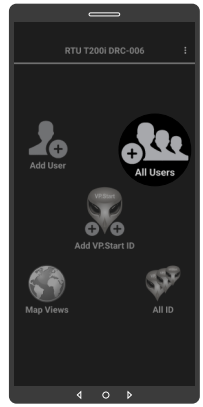


Fig | 26

Click to open "All Users".

Fig | 27

Click here to view all VP.Start ID (Phone Number).

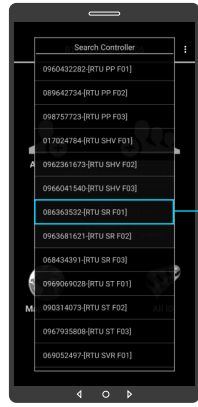
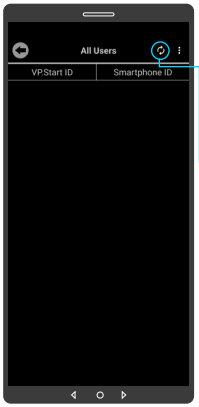


Fig | 28

Choose a VP.Start ID.

Confirm "OK" button.

Fig 29



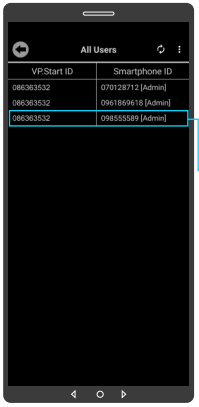
Click on Refresh button. And confirm by "OK" button.

Fig 30

07 Delete User

All Users view.

Fig 31



To delete user from your DRC-006, hold on user number.

Fig 32

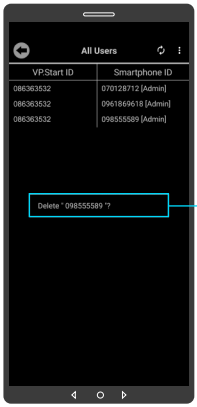


Fig | 33

Click on Delete "User phone number" and confirm by "OK" button.

Fig | 34

User deleted.

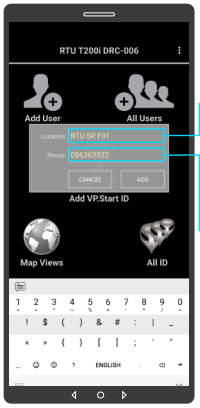
08 Add VP.Start ID

Fig | 35

Click to open "Add VP.Start ID".

Fig | 36

Add VP.Start ID interface.



Click to write location name (DRC-006 name).

Click to write VP.Start ID (DRC-006 phone number).

Fig | 37

Click on "ADD" button and confirm by "OK" button.

Fig | 38

09 Map Views

Fig | 39

NOTE

The application will display "Success" as a pop up notification to confirm the registration of the DRC-006 controller into the system.

Scroll down notification bar.

Fig | 40

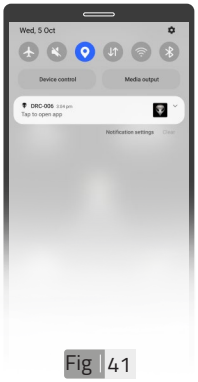


Fig | 41

Turn on location.

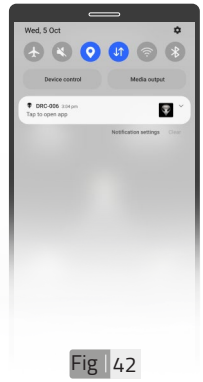


Fig | 42

Turn on Internet.

Fig | 43

Click to open "Map Views".

Fig | 44

Select a VP.Start ID.

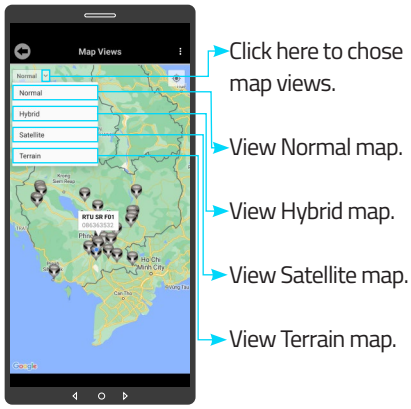
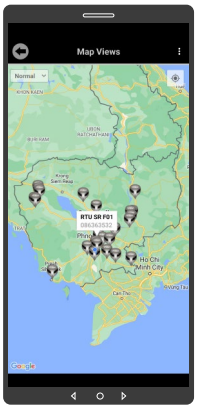
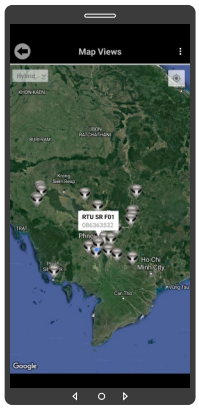


Fig | 45



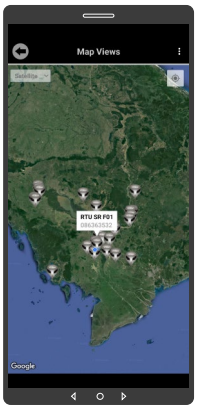
Normal view

Fig | 46



Hybrid view

Fig | 47



Satellite view

Fig | 48

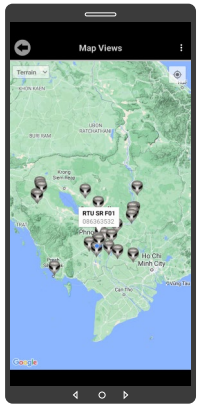


Fig | 49

Terrain view

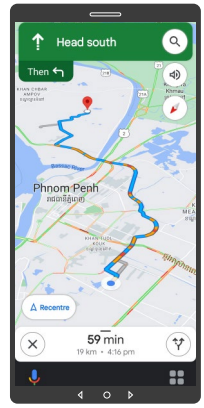


Fig | 50

Hold on VP.Start icon to show Drive Mode to VP.Start controller on Google Map.

10 Map Views (Change Map Coordinates)

Fig | 51

To change map coordinate, hold on VP.Start ID in "Map Views".

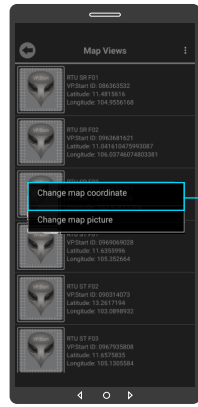
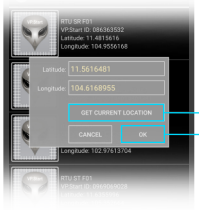


Fig | 52

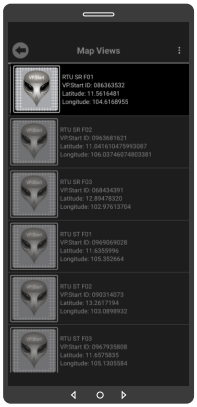
Click on "Change map coordinates".



Click on "GET CURRENT LOCATION".

Click on "OK" button.

Fig | 53



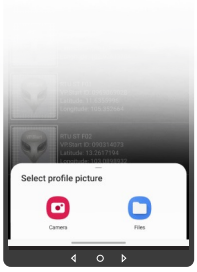
DRC-006 location changed.

Fig | 54

11 Map Views (Change Map Picture)

To change map picture, click and hold VP.Start ID in "Map Views" as Fig. 51. And click on "Change map picture".

Fig | 55



Take photo from "Camera" or choose photo from "File" and select photo. And confirm by "OK" button.

Fig | 56

12 Map Views (Delete Map Picture)

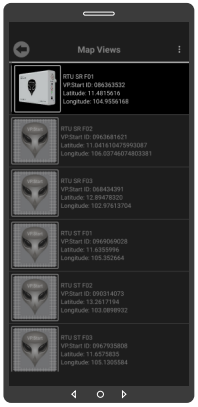


Fig | 57

DRC-006 map picture changed.

Fig | 58

To Delete Map Picture, hold on map picture.

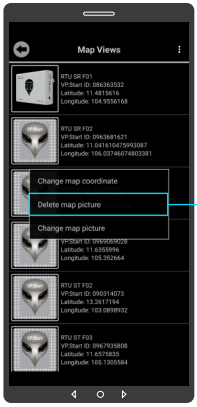


Fig | 59

Click on "Delete map picture" and confirm by "OK" button.

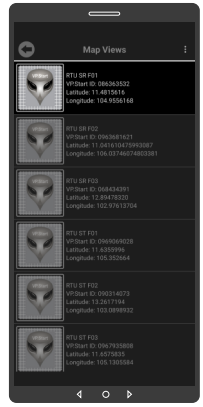


Fig | 60

Map picture deleted.

13 All IDs

Fig | 61

Click on "All ID".

Fig | 62

All VP.Start ID view.

Fig | 63

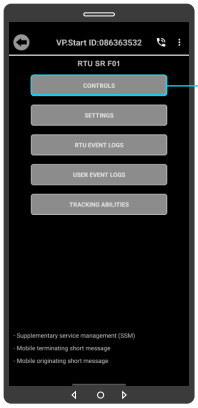
NOTE

Scroll up or down to view more VP.Start ID.

14 Control Interface

Fig | 64

Select a VP.Start ID.

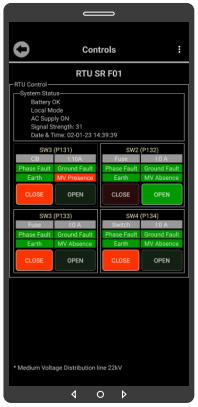


Click on "CONTROLS".

Fig | 65

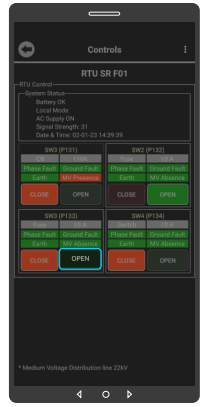
Click on "OK" button.

Fig | 66



Control Interface.

Fig | 67



To control "Open Switchgear", click on "Open" button.

Fig | 68

Fig 69

Click on "OK" button.

Fig 70

Control "Open Switchgear" success.

Fig 71

To control "Close Switchgear", click on "Close" button.

Fig 72

Click on "OK" button.

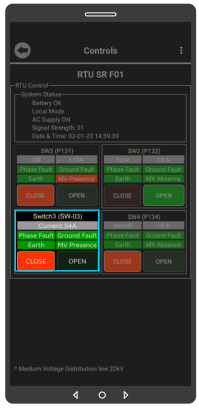


Fig | 73

Control "Close Switchgear" success.

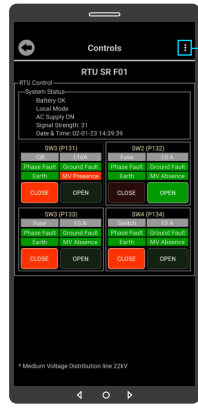


Fig | 74

To label Switchgear, click on "Menu Sign".

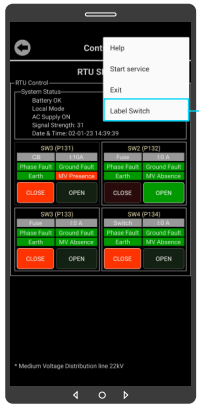
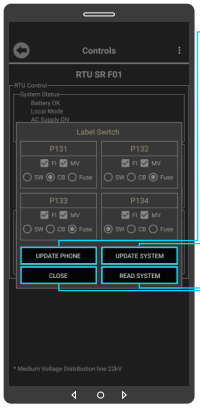


Fig | 75

Click on "Label Switch".

Fig | 76

Label the Switchgear. Add "✓" on which Switchgear connect with Fault Indicator (FI), MV Present (MV) and select RMU type as Switchgear, Circuit Breaker or Fuse.



Click to update data to phone.

Click to update data from phone to system.

Click to read data from system to phone.

Click to exit.

Fig 77

Click on "OK" button.

Fig 78

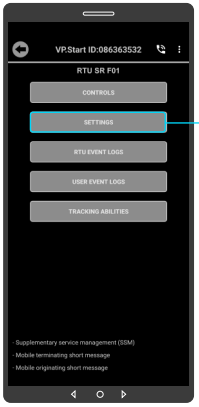
Label Switch data updated.

NOTE

"Success" will pop up as a notification message below indicating that the controller has been successfully set Current Warning value in the system.

Fig 79

15 Settings Interface



Click on "SETTINGS".

Fig 80

Fig | 81

Click on "OK" button.

Fig | 82

Settings Interface.

Fig | 83

To turn AC Supply OFF alarm off, click on "AC Supply OFF Alarm (ON)" button.

NOTE

Internet Report for configuration to RPM Grid system.

Fig | 84

Click on "OK" button.

Fig 85

AC Supply OFF Alarm turn off success.

NOTE

"Success" will pop up as a notification message below indicating that the controller has been successfully turn off Source Alarm in the system.

Fig 86

To update Fault Alarm, Switchgear Off Alarm and MV Absence alarm, add "✓" on "SW" of the Switchgear, click on "UPDATE" button and confirm by "OK" button.

16 RTU Event Logs Interface

Fig 87

Alarm configured.

NOTE

"Success" will pop up as a notification message below indicating that the controller has been successfully update alarm configuration in the system.

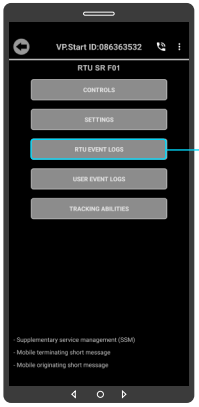


Fig 88

Click on "RTU EVENT LOGS".

Fig | 89

Click on "Refresh" button to read RTU Event Logs.

Fig | 90

Click on "OK" button.

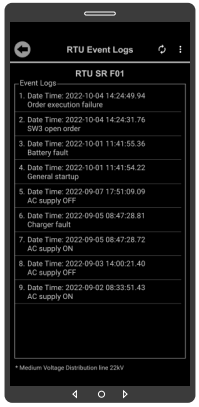


Fig | 91

RTU Event Logs Interface.

Fig | 92

Click on "Refresh" button to get more RTU Event Logs.

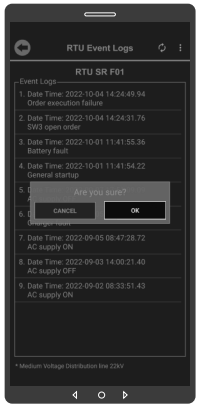


Fig 93

Confirm by "OK" button.

Fig 94

More RTU Event Logs.

Fig 95

NOTE

Scroll up or down to view more RTU Even Logs.

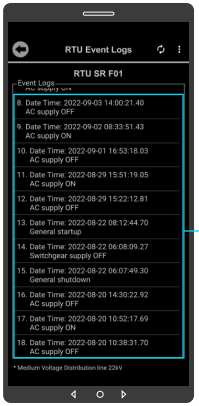
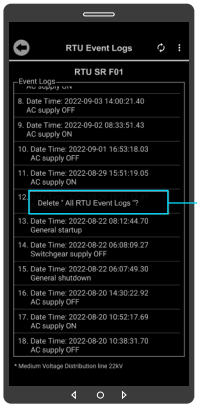


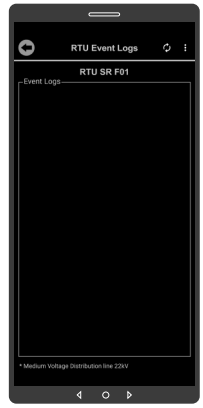
Fig 96

To delete RTU Event Logs, hold on RTU Event Logs.



Click on "Delete All RTU Event Logs", and click on "OK" button.

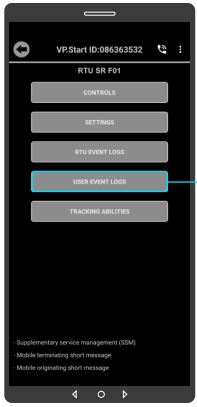
Fig | 97



RTU Event Logs deleted from App interface.

Fig | 98

17 User Event Logs Interface



Click on "USER EVENT LOGS".

Fig | 99

Click on "Refresh" button to read User Event Logs. Confirm by "OK" button.

Fig | 100

Fig | 101

User Event Logs Interface.

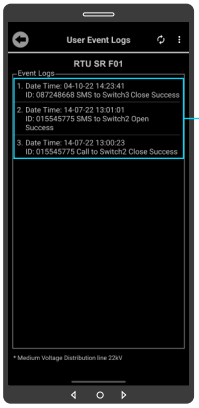


Fig | 102

To delete User Event Logs, hold on User Event Logs.

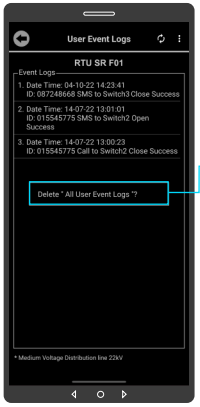


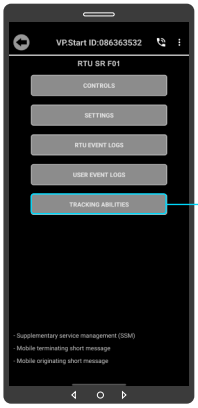
Fig | 103

Click on "Delete All User Event Logs", and click on "OK" button.

Fig | 104

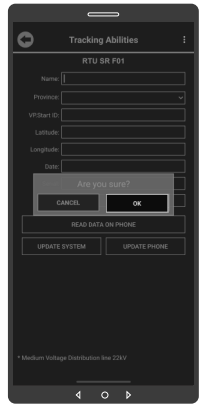
User Event Logs deleted from App interface.

18 Tracking Abilities Interface



TRACKING ABILITIES

Fig | 105

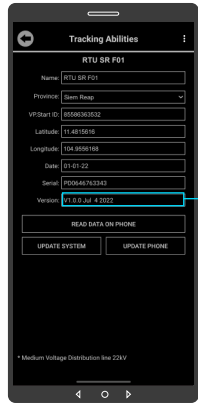


Confirm by "OK" button.

Fig | 106

Tracking Abilities Interface.

Fig | 107

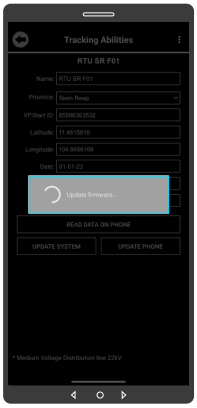


To update controller Firmware, hold on "Controller Version".

Fig | 108

Confirm by "OK" button.

Fig | 109



Update Firmware process.

Fig | 110

19 Remote "Call Control"

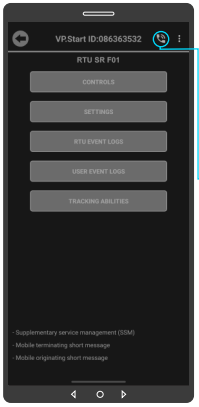
Firmware update success.

Click to read data on phone.

Click to update data from phone to system.

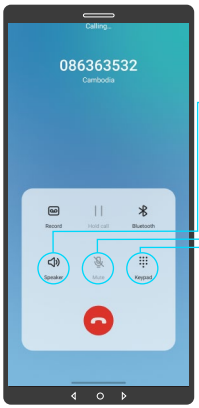
Click to update date to phone.

Fig | 111



Click on "Call" button to initiate call control.

Fig | 112

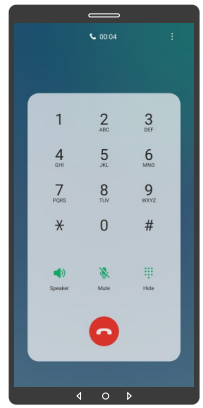


Click to turn on Speaker.

Click to Mute.

Click to show Keypad.

Fig | 113



Remote call control interface.

Fig | 114

CALL CONTROL

Click on 1 for control "1st Switchgear".

Click on 2 for control "2nd Switchgear".

Click on 3 for control "3rd Switchgear".

Click on 4 for control "4th Switchgear".

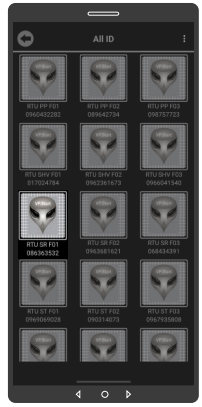
Click on 0 for opening "Control Mode".

Click on * for "Open".

Click on # for "Close".

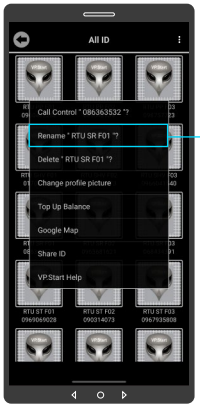
Click on 9 for "Re-start Controller".

20 Renaming VP.Start IDs (DRC-006 Controllers)



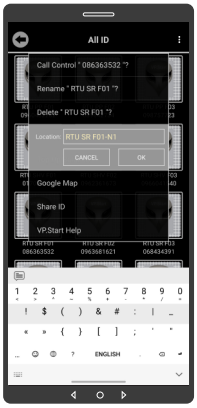
To rename VP. Start ID click and hold on VP.Start ID icon.

Fig | 115



Click on "Rename".

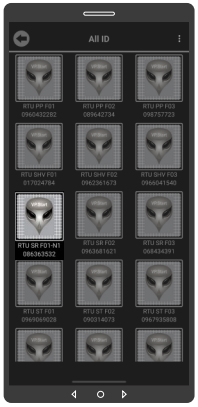
Fig | 116



Rename existing name. And click on "OK" button.

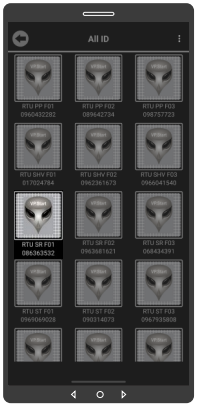
Fig | 117

21 Delete VP.Start ID



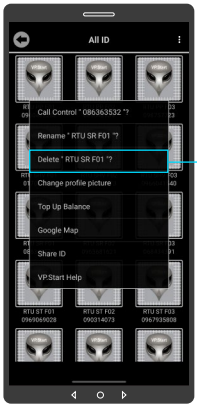
Controller's name changed.

Fig | 118



To delete VP.Start ID, hold on VP.Start ID icon.

Fig | 119



Click on "Delete". Then click on "OK" button.

Fig | 120

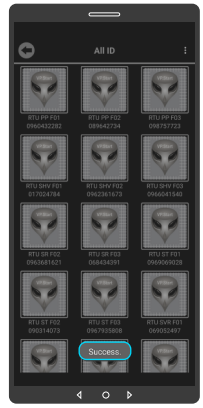
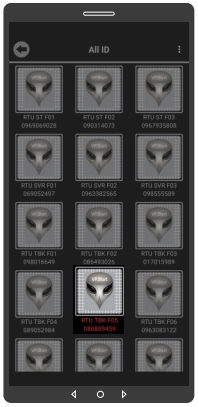


Fig | 121

NOTE

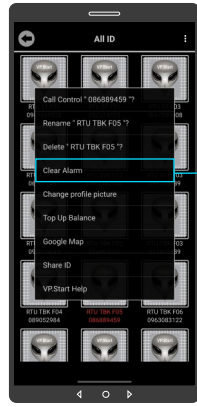
"Success" will pop up as a notification message below indicating that the controller has been successfully deleted from the system.

22 Clear Alarm



To Clear Alarm, hold on alarmed VP.Start ID.

Fig | 122



Click on "Clear Alarm". Click on "Back" sign.

Fig | 123

23 Change Profile Picture

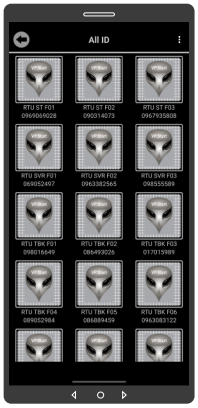


Fig | 124

Alarm VP.Start ID cleared.

Fig | 125

To change profile picture, hold on VP.Start ID icon.

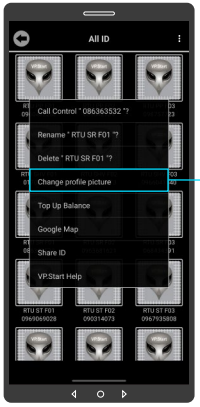


Fig | 126

Click on "Change profile picture"

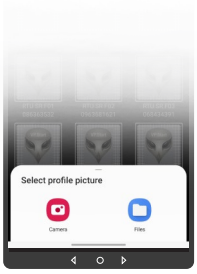


Fig | 127

Take photo from "Camera" or choose photo from "File" and select photo. And confirm by "OK" button.

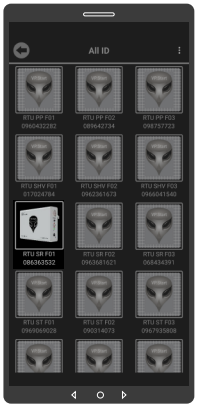


Fig | 128

Profile picture changed.

24 Delete Profile Picture

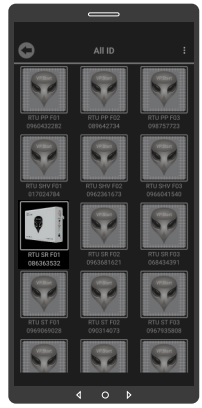


Fig | 129

To Delete profile picture, hold on VP.Start ID icon.

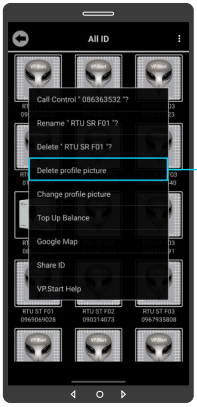


Fig | 130

Click on "Delete profile picture".

And confirm by "OK" button.

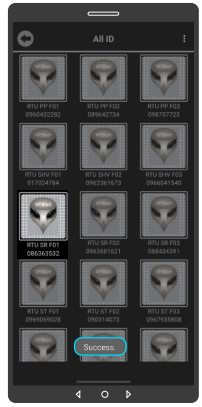


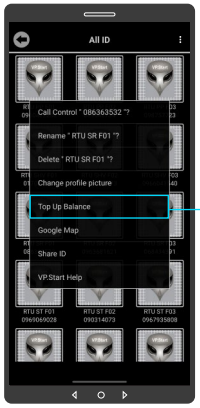
Fig | 131

Controller profile picture deleted.

⚠NOTE

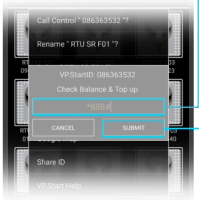
"Success" will pop up as a notification message below indicating that the controller has been successfully deleted from the system.

25 Top Up/Check Balance



To top up or check balance, hold on VP.Start ID icon and click on "Balance".

Fig | 132



Input the top up or check balance command.

Click on "SUBMIT" to send the "Check or top up balance" command to the controller.

Fig | 133

Confirm by "OK" button.

Fig | 134

Balance interface showed.

Fig | 135

26 Google Map

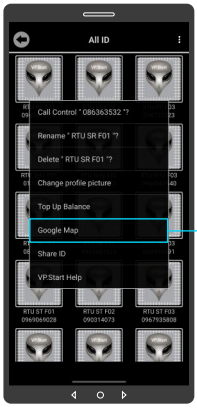


Fig | 136

To view Google Map with Drive Mode to VP.Start controller,

Click on "Google Map".

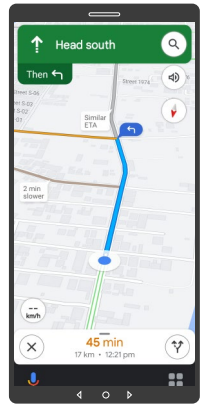


Fig | 137

Google Map Drive Mode showed.

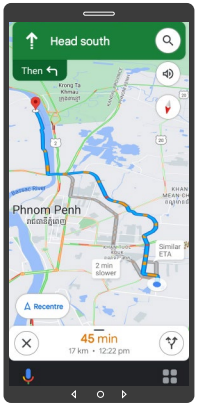


Fig | 138

Click on "X" sign to view in Google Map view.

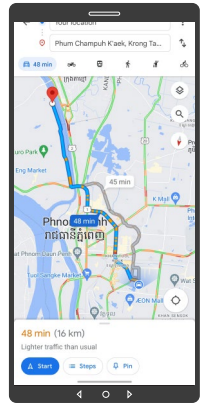
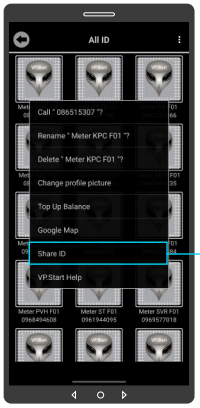


Fig | 139

Google Map viewed.

27 Share ID



To share VP.Start ID to other phone number, hold on VP.Start ID icon and click on "Share ID".

Fig | 140

Click to write phone number to share.

Click on "SEND" button.

Fig | 141

Fig | 142

⚠NOTE

"Success" will pop up as a notification message below indicating that you have successfully shared the DRC-006 controller's ID and controller information to another phone number as a SMS as shown in Fig. 142.

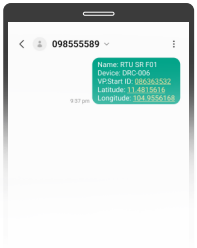


Fig | 143

⚠NOTE

Controller ID and information displayed as an SMS with a shared number.

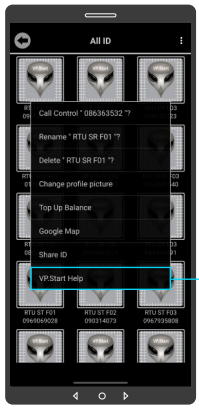


Fig | 144

To alert to call center immediately for help, click and hold on VP.Start ID icon and

Click on "VP.Start Help".

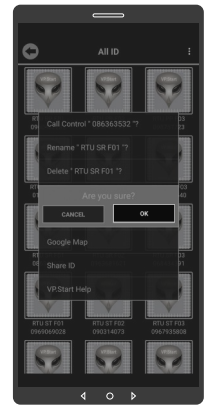


Fig | 145

Click on "OK" button. The app will comand the DRC-006 controller to automatically share its ID information and call directly to VP.Start's call center to alert our support team immediately.

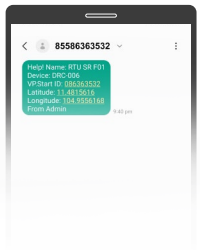


Fig | 146

NOTE

As shown in Fig. 146, the DRC-006 controller will share its ID to VP.Start's call center

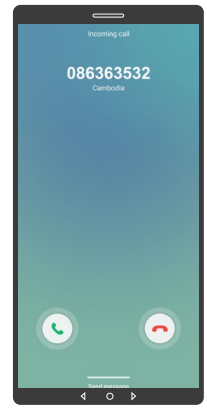


Fig | 147

NOTE

As shown in Fig. 147, the DRC-006 controller is calling VP.Start's call center to immediately alert the support team.

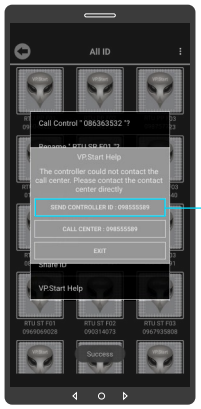


Fig | 148

If the controller is inaccessible for any reason, the app can be used to manually send the controller ID to the VP.Start call center. Click on "SEND CONTROLLER ID: 098555589" to execute the Command. And confirm by "OK" button.

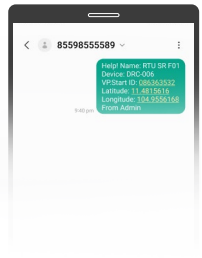


Fig | 149

NOTE

The user has shared the controller's ID manually with VP. Start's call center as shown in Fig. 149.

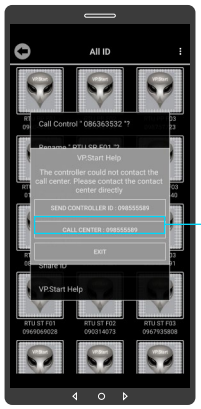


Fig | 150

Or Click on "CALL CENTER: 098555589" to call to VP. Start's call center.

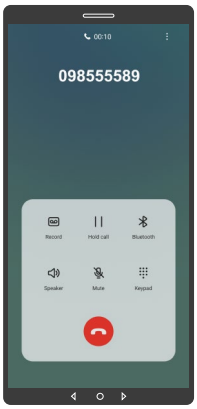


Fig | 151

NOTE

User has manually executed the command to call VP. Start's call center.

28 Alarm System

Fig | 152

Switchgear OFF Alarm.

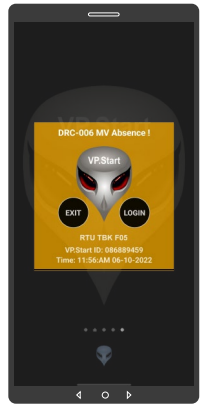


Fig | 153

MV Absence Alarm.

Fig | 154

Phase & Ground Fault Alarm.

Fig | 155

Phase Fault Alarm.

Fig | 156

Ground Fault Alarm.

Fig | 157

AC Supply off Alarm.

Fig | 158

⚠NOTE

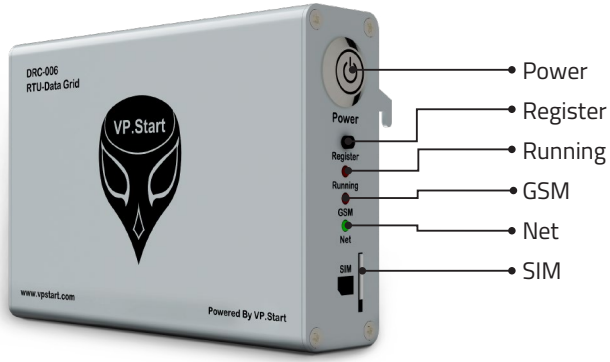
- An alarm notification message will appear whenever the system detects a problem such as Switchgear OFF, MV Absence, Phase & Ground Fault, Phase Fault, Ground Fault and AC Supply OFF.

Fig | 159

⚠NOTE

- Click on "LOGIN" to login controls interface panel.
- Click on "EXIT" to exit an alarm notification message.

TROUBLESHOOTING



LED Light Status Explanation

LED Light	LED Status	System Working Status
Power	Off	The Power button is not turned On. No power input.
	Red	Power On
Running	Red (blinking every 1s)	Running normally
GSM	Red On	GSM On
	Off	GSM Off
Net	64ms On/800ms Off	GSM has not registered to a network
	64ms On/3000ms Off	GSM has registered to a network
	64ms On/300ms Off	GPRS communication
	Off	GSM is not running

Test Serial DRC-006 Controller

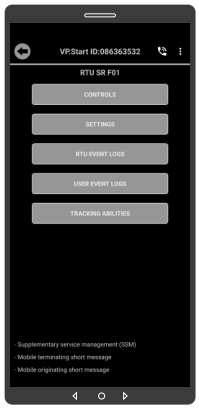
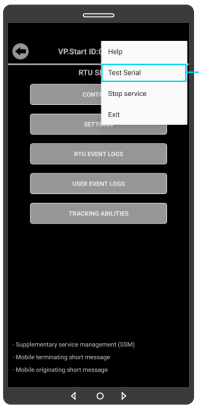


Fig 01

To Test Serial DRC-006 Controller, click on "Menu Option" sign.

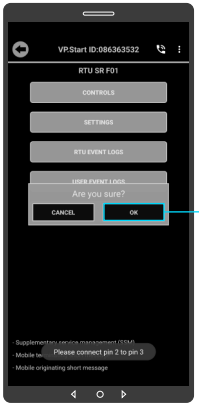


Click on "Test Serial".

Fig 02

Fig 03

Connect pin 2 to pin 3 on DRC-006 controller.



Click on "OK" button.

Fig 04

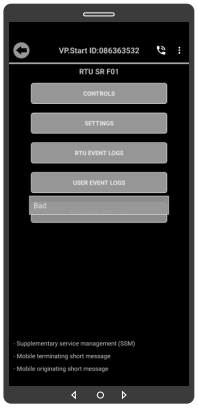


Fig | 06

Serial Error.

NOTE

The notification message "Bad" indicating that DRC-006 controller's Serial Error.

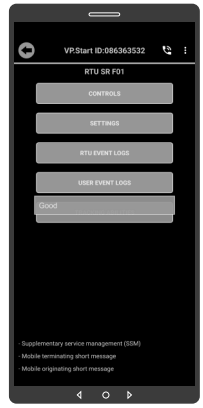


Fig | 07

Serial OK.

NOTE

The notification message "Good" indicating that DRC-006 controller's Serial ok.

TROUBLESHOOTING

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