



# DRC-009

# USER GUIDE



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# INTRODUCTION

The DRC-009 is a smart controller for RMU switchgear systems of various brands such as ABB, Schneider & Siemens. The DRC-009 solution has been effective in reducing energy losses while improving distribution grid network reliability as a 'Smart-Grid Ready' solution capable of easy integration, remote control operation and remote-supervision through data-insights. Operators using the DRC-009 stand to benefit from reduced energy losses, better & faster management of power distribution systems to achieve higher reliability for consumers. As a result these efficiency gains translate to OPEX savings as well and reduction in risk for maintenance teams through the DRC-009 smart controller. The DRC-009 can be controlled and monitored via smartphone app (Android) & RPM Grid system (PC) securely over GSM & GPRS networks as well as standard call-control features for all our DRCs.



## DRC-009 DEVICE



### SCHNEIDER



### SIEMENS



### ABB



## RMU





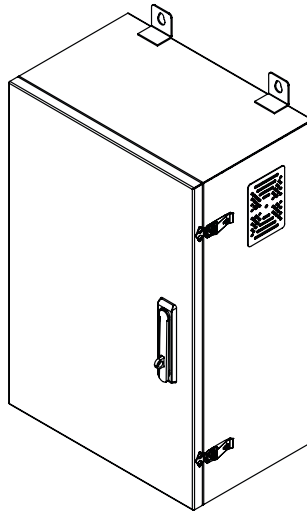
# PRODUCT OVERVIEW



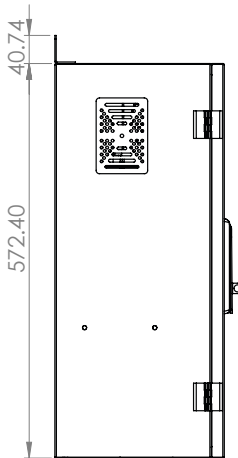
## DRC-009 DEVICE



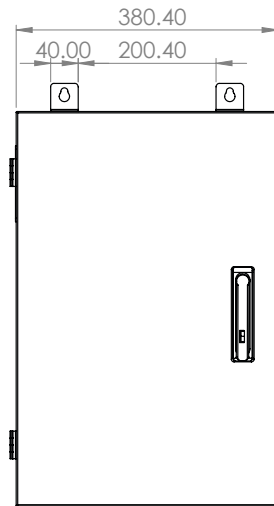
## HARDWARE DIMENSIONS



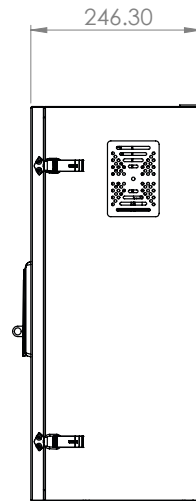
3D View



Side View



Front View



Side View

# SPECIFICATIONS & FEATURES

## Description

## Specifications

### Remote Control Unit

Country of Origin	Cambodia
Manufacturer's Name	VP.Start Technology
Manufacturer's Reference	DRC-009
Remote Control Interface	GSM, Smartphone, PC
Remote Control Functions and Monitoring of RMU in MV/LV Substation	Yes
Applicable with RMU Brands	ABB, Siemens, Schneider (RM6)
Voltage Supply Range	(190-230) ± 10% (Vac)
Ambient Temperature Range	0 to 65°C
Humidity	< 95%
Battery Voltage	24 (Vdc)
Battery Charger Accessory	Yes
Real-Time Remote Control System Software can be Operated Via Smartphone or PC	Yes
Operating Frequency Bandwidth	GSM/GPRS, 900/1800 MHz
The Remote Control Unit is Capable of Operatons Via Smartphone (GSM), RPM Grid, Mini RPM Grid etc. at Installation Time or Extendable Later.	Yes
DRC-009 Function	Yes



**Accessibility and Support:**

Smartphone or PC	Yes
User/Control Management	Yes
Geographical Information System Support	Yes
User Operation Event Record	Yes
Top Up Balance in Case of Local Sim Card Use	Yes

**Software Management:**

Add/Remove User	Yes
Add/Remove Controller (DRC-009)	Yes
View all Users	Yes
View all Controllers (DRC-009)	Yes
Controller ID Setting & Tracking Abilities	Yes

**Remote Monitoring Functions Via PC or Smartphone:**

Switch Position: Open/Close/Earth	Yes
Check Signal (GSM) Strength, Power Supply	Yes
Availability of Power Supply	Yes
View User Event Logs	Yes
System Battery Voltage	Yes
MV Present Voltage	Yes



View RMU Location on Google Map by Using the Tracking Abilities Function	Yes
<b>Alarm Notifications:</b>	
Switch "Open"	Yes
CB "Open"	Yes
Fuse "Break-Out"	Yes
MV Voltage Loss	Yes
Low Battery	Yes
User Event Log Record Via Smartphone or RPM Grid	Yes
Maximum Control Switch	Up to 8 Switches
<b>Remote Switch Support With RMUs:</b>	
Fuse Function, P	Yes
Switch Function, S	Yes
Breaker Function, CP, CF	Yes
<b>Call Control Features</b>	
Control "Open/Close"	Yes
Check Position Switch "Open/Close"	Yes
Read Measurement Current (Optional for Fault Detection Function)	Optional
Check Condition of Line "Normal/Under Fault" (Optional for Fault Detection Function)	Optional



**Fault Indicator Detection Functions:**

This Function is Available at the Installation Stage or Later	<input type="checkbox"/> at Installation Stage
	<input type="checkbox"/> at Later Stage

**Optional Alarm Notification Settings:**

Phase Overload, Setting Current/Time	Optional
--------------------------------------	----------

Earth Overcurrent, Setting Current/Time	Optional
---	----------

**Fault Detection Alarm Notifications:**

Phase Fault	Optional
-------------	----------

Earth Fault	Optional
-------------	----------

Type of Fault Indication	Optional
--------------------------	----------

Fault Current Value Indication Via Smartphone or RPM Grid	Optional
---	----------

Fault Record Event	Optional
--------------------	----------

**Cubicle Motorization Unit**

Cubicle Motorization Unit is Supplied with Remote Control on Request	Optional
--	----------

The Cubicle Motorization Unit is Supplied at the Installation Stage or Later	<input type="checkbox"/> at Installation Stage
	<input type="checkbox"/> at Later Stage

Applicable with RMU Brand	ABB, Siemens, Schneider (RM6)
---------------------------	-------------------------------

Voltage Supply Range with RMU	<input type="checkbox"/> 24
	<input type="checkbox"/> 48
	<input type="checkbox"/> 220





# APP USER GUIDE

## Mobile Phone Interface Usage

01

### How to Install DRC-009 App on Smartphone

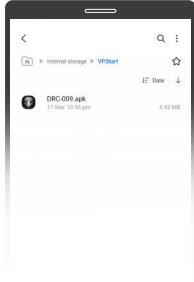


Fig. 01

Click on "DRC-009 .apk" to install.

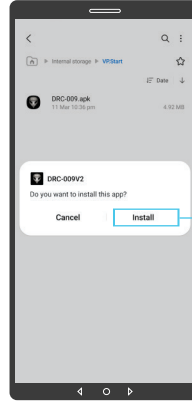


Fig. 02

Click on "Install".

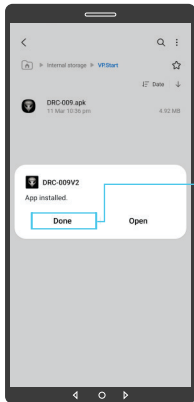


Fig. 03

Click on "Done" to finish.



Fig. 04

DRC-009 App installed.





## Create User Account



Fig. 05

Click on "DRC-009 App" to open App.

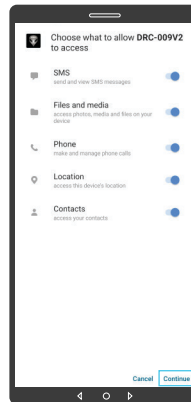


Fig. 06

If the system pop up allow DRC-009 to access.

Then click on "Continue".



Fig. 07

Create User Account login interface.

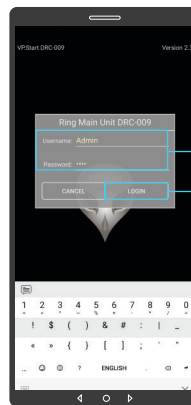


Fig. 08

Create: Username and Password.

Then click on "LOGIN".



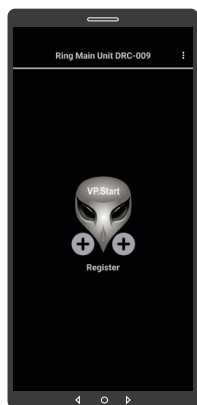


Fig. 09

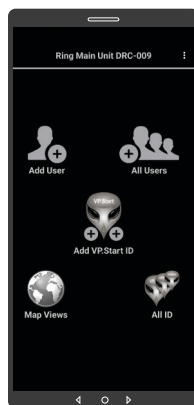
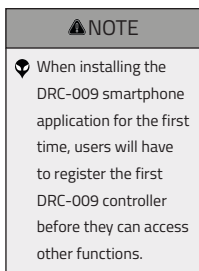
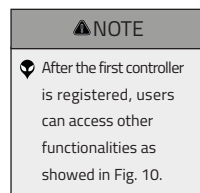


Fig. 10



### 03 Login to App



Fig. 11

Click on "DRC-009 App" to open App.

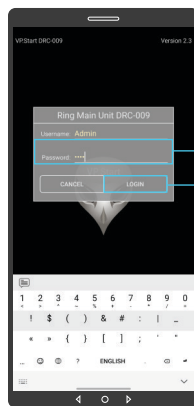


Fig. 12

Input the Password.

Click on "LOGIN".



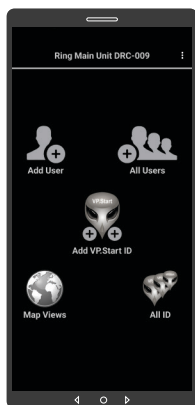


Fig. 13

DRC-009 App functions.



## Service



Fig. 14

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

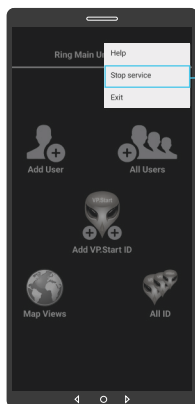


Fig. 15

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.

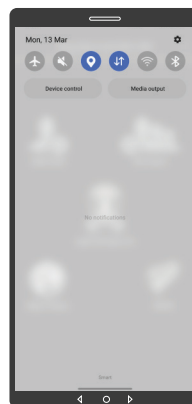


Fig. 16

Alarm service is not running when your smartphone has not enabled DRC-009 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 smartphone app.

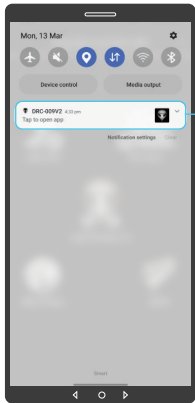


Fig. 18

Alarm service is running when your smartphone has enabled DRC-009 alarm service as shown in Fig.18.

## 05 Adding Users

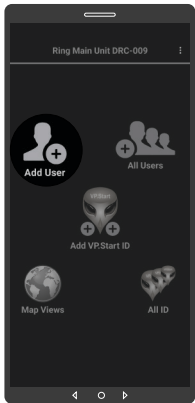


Fig. 19

Click to open "Add User".



Fig. 20

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



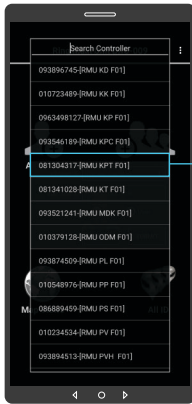


Fig. 21

Click to choose a VP.Start ID.



Fig. 22

#### NOTE

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



Fig. 23

VP.Start ID chosen.



Fig. 24

Write user phone number in "Add User ID".

Choose user position as Admin or User.

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





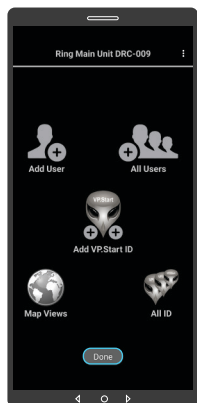
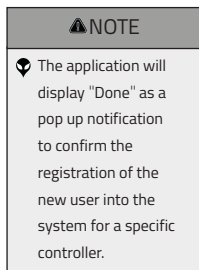


Fig. 25



## 06 All Users

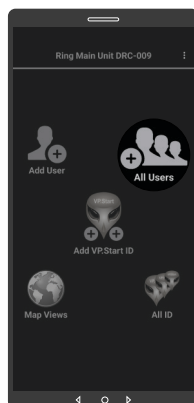


Fig. 26

Click to open "All Users".

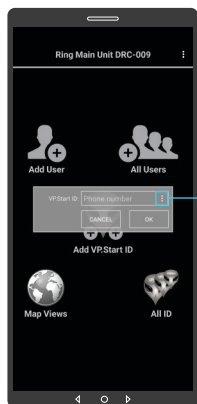


Fig. 27

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

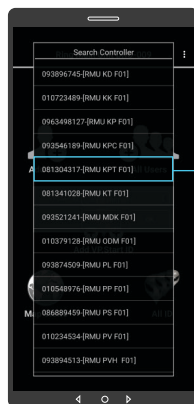


Fig. 28

Choose a VP.Start ID.



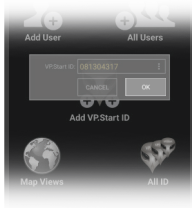


Fig. 29

Confirm by "OK" button.



Fig. 30

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



## Delete User

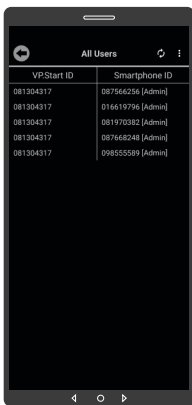


Fig. 31

All Users view.



Fig. 32

To delete user from your DRC-009, hold on user number.



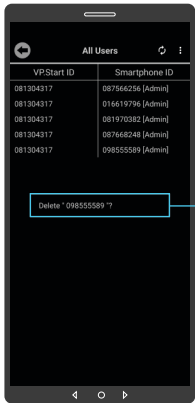


Fig. 33

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



Fig. 34

User deleted.

## 08 Add VP.Start ID

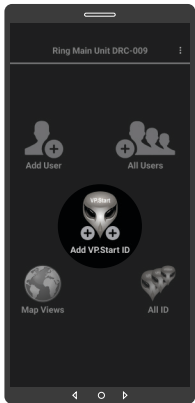


Fig. 35

Click to open "Add VP.Start ID".

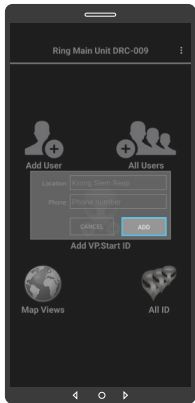


Fig. 36

Add VP.Start ID interface.



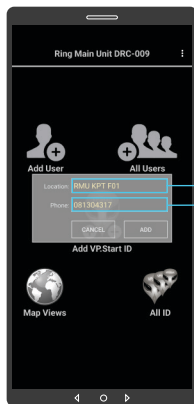


Fig. 37

Click to write location name (DRC-009 name).

Click to write VP.Start ID (DRC-009 phone number).



Fig. 38

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



## Map Views

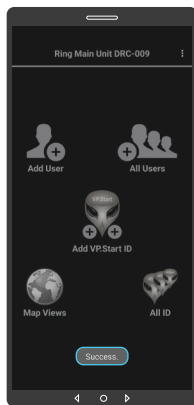


Fig. 39

**NOTE**

The application will display "Success" as a pop up notification to confirm the registration of the DRC-009 controller into the system.

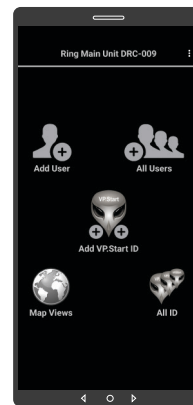


Fig. 40

Scroll down notification bar.



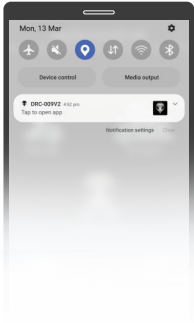


Fig. 41

Turn on location.

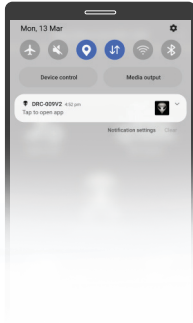


Fig. 42

Turn on Internet.

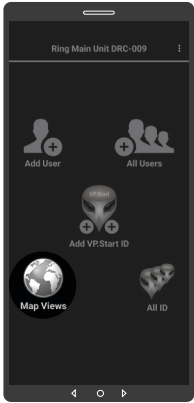


Fig. 43

Click to open  
"Map Views".

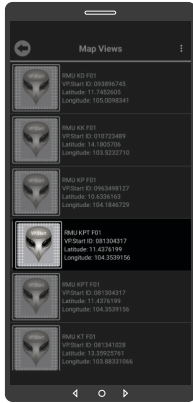


Fig. 44

Select a VP.Start ID.



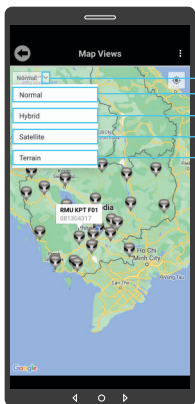


Fig. 45

Click here to chose map views.

View Normal map.

View Hybrid map.

View Satellite map.

View Terrain map.

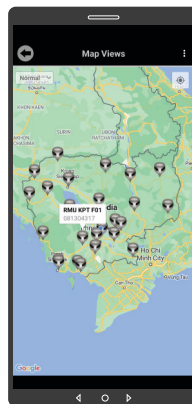


Fig. 46

Normal view

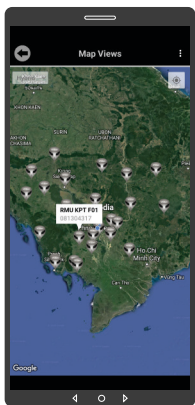


Fig. 47

Hybrid view

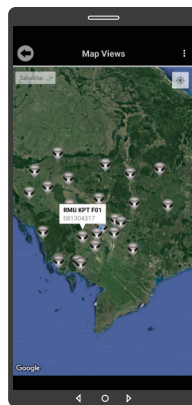


Fig. 48

Satellite view





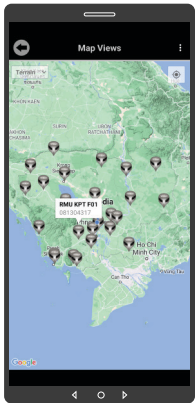


Fig. 49

Terrain view

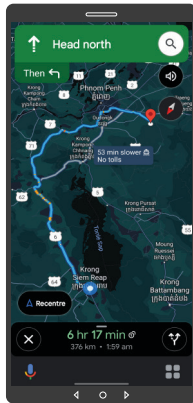


Fig. 50

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".

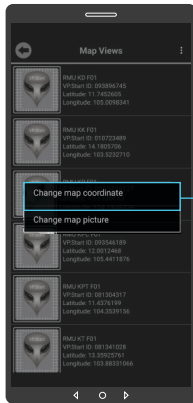


Fig. 52

Click on "Change map coordinates".



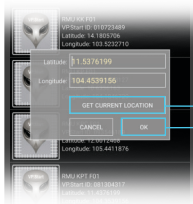


Fig. 53

Click on "GET CURRENT LOCATION".

Click on "OK" button.

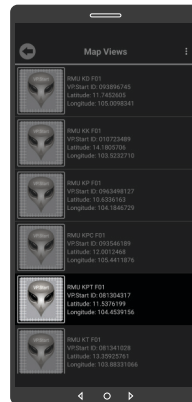


Fig. 54

DRC-009 location changed.

## 11 Map Views (Change Map Picture)

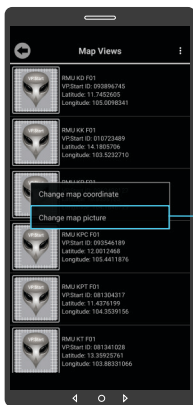


Fig. 55

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

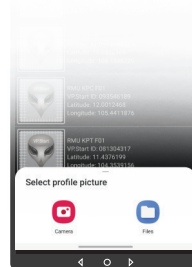


Fig. 56

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



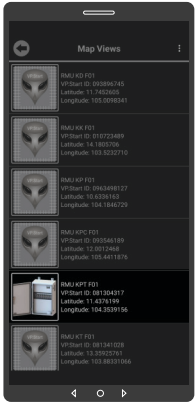


Fig. 57

DRC-009 map picture changed.

## 12 Map Views (Delete Map Picture)



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 ID

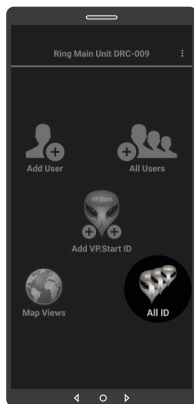


Fig. 61

Click on "All ID".

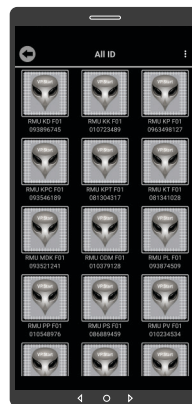


Fig. 62

All VP.Start ID view.

## 14 Control Interface



Fig. 63

Click on "ALL ID" to show "Search Controller" feature.

### NOTE

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

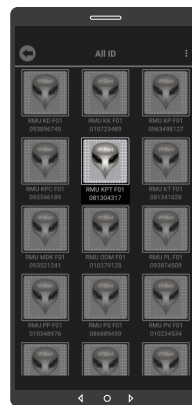


Fig. 64

Select a VP.Start ID.



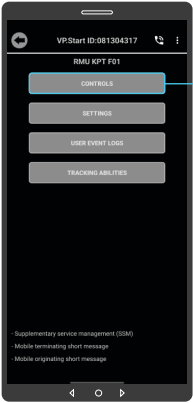


Fig. 65

Click on  
"CONTROLS".



Fig. 66

Click on "OK" button.

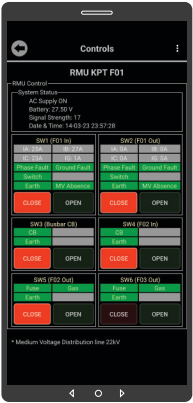


Fig. 67

Control Interface.

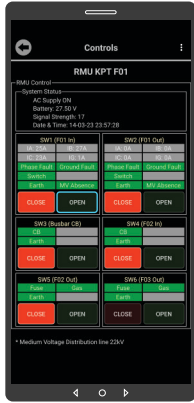


Fig. 68

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



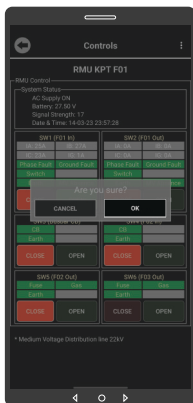


Fig. 69

Click on "OK" button.

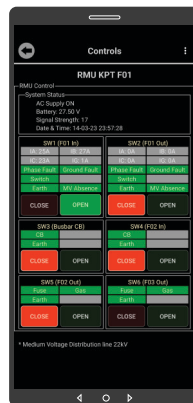


Fig. 70

Control "Open Switchgear" success.

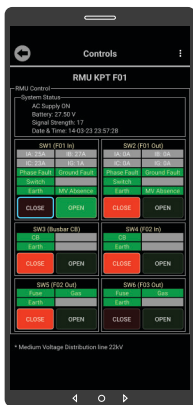


Fig. 71

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

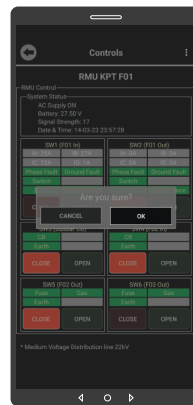


Fig. 72

Click on "OK" button.





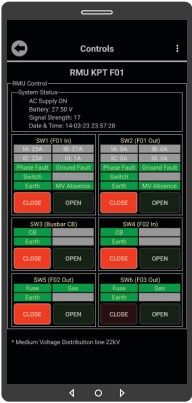


Fig. 73

Control "Close Switchgear" success.

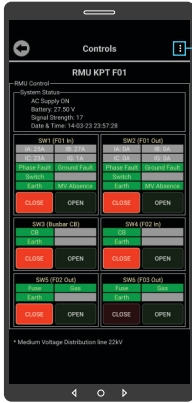


Fig. 74

To label Switchgear, click on "Menu Sign".



Fig. 75

Click on "Label Switch".

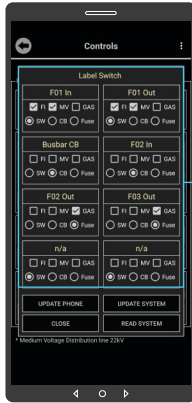


Fig. 76

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



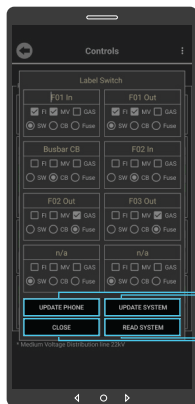


Fig. 77

- 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.

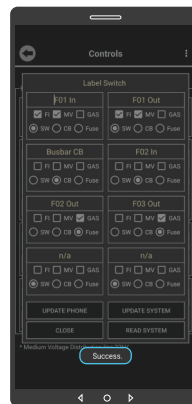


Fig. 78

**NOTE**

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

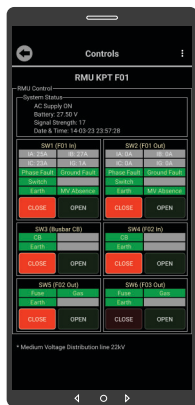
**Settings Interface**

Fig. 79

Label Switch data updated.

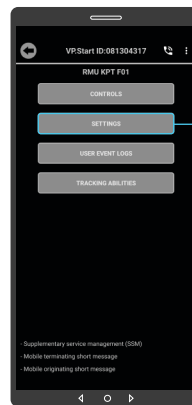


Fig. 80

Click on "SETINGS".





Fig. 81

Click on "OK" button.



Fig. 82

Settings Interface.



Fig. 83

**NOTE**  
Scroll up or down to view more Settings Interface.



Fig. 84

To turn off System Alarm (Door, Battery Low), click on "System Alarm ON".





Fig. 85

Click on "OK" button.



Fig. 86

System Alarm (Door, Battery Low) turn off success.

#### NOTE

"Success" will pop up as a notification message below indicating that the controller has been successfully turn off System Alarm (Door, Battery Low) in the system.



Fig. 87

To update Switchgear Off Alarm, add "✓" on "SW #" of the Switchgear, click on "UPDATE SWITCHGEAR OFF ALARM" button.



Fig. 88

Click on "OK" button.





Fig. 89

**NOTE**

⚡ "Success" will pop up as a notification message below indicating that the controller has been successfully update Switchgear Off Alarm in the system.



Fig. 90

To update MV Absence Alarm, add "✓" on "SW #" of the Switchgear, on click "UPDATE MV ABSENCE ALARM" button.



Fig. 91

Click on "OK" button.



Fig. 92

**NOTE**

⚡ "Success" will pop up as a notification message below indicating that the controller has been successfully update MV Absence Alarm in the system.





Fig. 93

To update Blown Fuse Alarm, add "✓" on "SW #" of the Switchgear, click on "UPDATE BLOWN FUSE ALARM" button.



Fig. 94

Click on "OK" button.



Fig. 95

**NOTE**

Success will pop up as a notification message below indicating that the controller has been successfully update Blown Fuse Alarm in the system.



Fig. 96

To set Fault Indicator and Communication, add "✓" on "Enable Communication Port" and "Fault Indicator is Solid Grounding", input "IP Address", add "✓" on "Fault #" of "Enable Fault Indicator", click on "UPDATE FAULT AND COMM SETTINGS" button.





Fig. 97

Click on "OK" button.



Fig. 98

**NOTE**

"Success" will pop up as a notification message below indicating that the controller has been successfully set Fault Indicator and Communication Settings in the system.

## 16 User Event Logs Interface

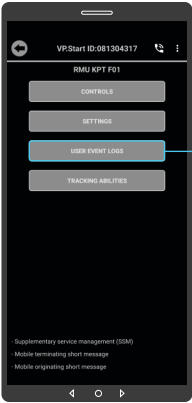


Fig. 99

Click on "USER EVENT LOGS".



Fig. 100

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





Fig. 101

Click on "OK" button.

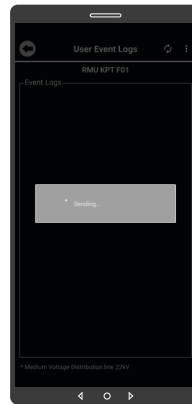


Fig. 102

**NOTE**

"Sending" will pop up indicating that the app is sending SMS to controller.



Fig. 103

User Event Logs Interface.

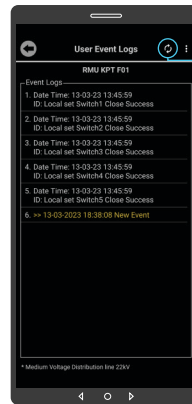


Fig. 104

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





Fig. 105

Click on "OK" button.



Fig. 106

More User Event Logs.

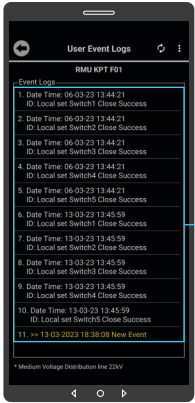


Fig. 107

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

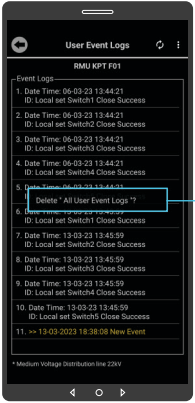


Fig. 108

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





Fig. 109

User Event Logs  
deleted from App  
interface.



## Tracking Abilities Interface

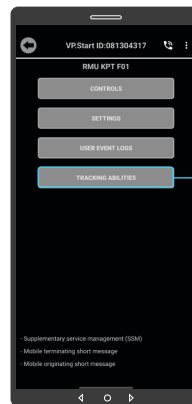


Fig. 110

TRACKING ABILITIES

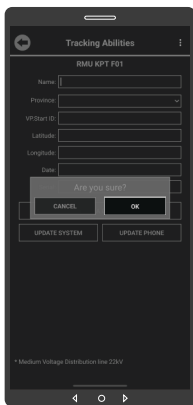


Fig. 111

Confirm by "OK"  
button.

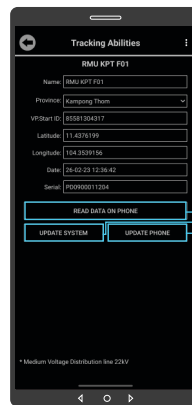


Fig. 112

Click to read data  
on phone.

Click to update  
data from phone  
to system.

Click to update  
date to phone.



## 18 Remote "Call Control"

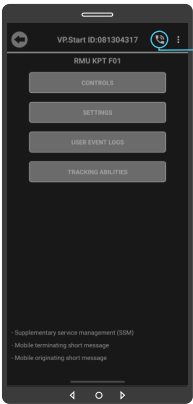


Fig. 113

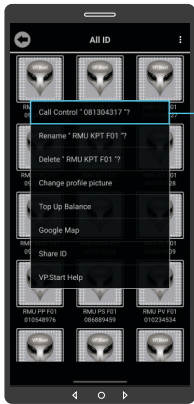


Fig. 114



Fig. 115

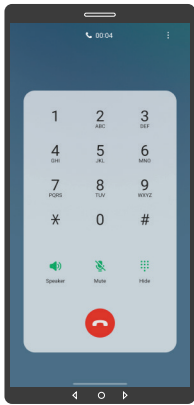


Fig. 116

Remote call control interface.



## CALL CONTROL

- Click on ❶ for control "1st Switchgear".
- Click on ❷ for control "2nd Switchgear".
- Click on ❸ for control "3rd Switchgear".
- Click on ❹ for control "4th Switchgear".
- Click on ❺ for control "5th Switchgear".
- Click on ❻ for control "6th Switchgear".
- Click on ❼ for control "7th Switchgear".
- Click on ❽ for control "8th Switchgear".
- Click on ❾ for "Re-start Controller".
- Click on ❿ for opening "Control Mode".
- Click on \* for "Open".
- Click on # for "Close".

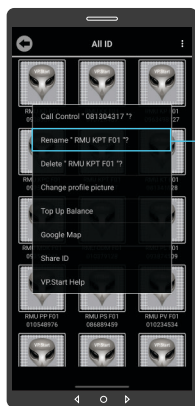


Fig. 118

Click on "Rename".

## 19 Renaming VP.Start IDs (DRC-009 Controllers)

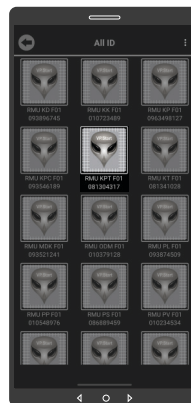


Fig. 117

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

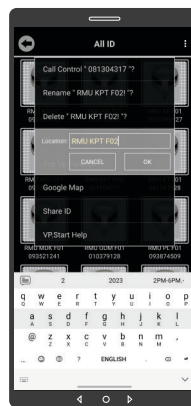


Fig. 119

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



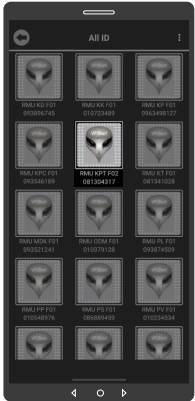


Fig. 120

Controller's name changed.



## Delete VP.Start ID



Fig. 121

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

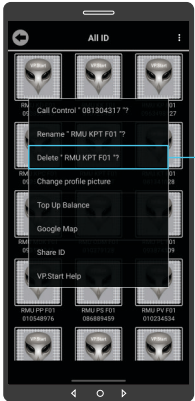


Fig. 122

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

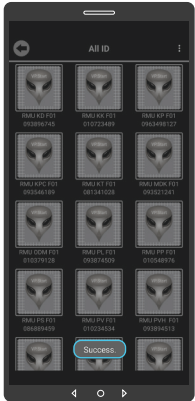


Fig. 123

### NOTE

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



## 21 Clear Alarm

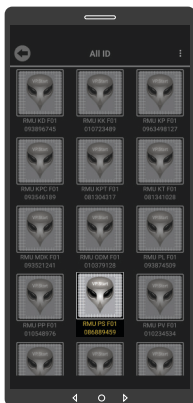


Fig. 124

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

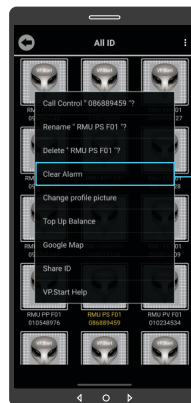


Fig. 125

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

## 22 Change Profile Picture

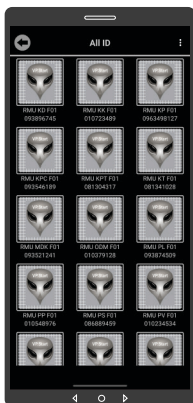


Fig. 126

Alarm VP.Start ID cleared.

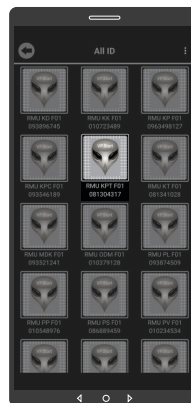


Fig. 127

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



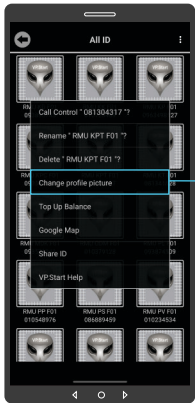


Fig. 128

Click on "Change profile picture".

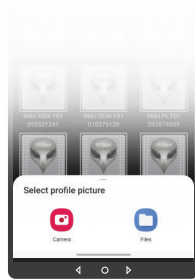


Fig. 129

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

## 23 Delete Profile Picture



Fig. 130

Profile picture changed.

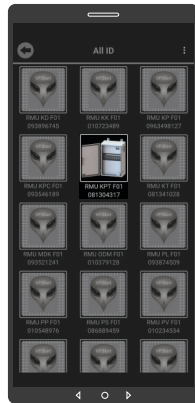


Fig. 131

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



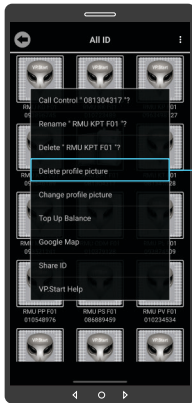


Fig. 132

Click on "Delete profile picture". And confirm by "OK" button.



Fig. 133

**NOTE**

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

## 24 Top Up / Check Balance

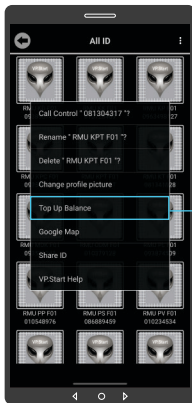


Fig. 134

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

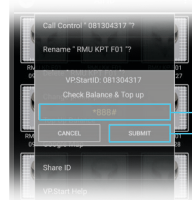


Fig. 135

Input the top up or check balance command.

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





Fig. 136

Confirm by "OK" button.

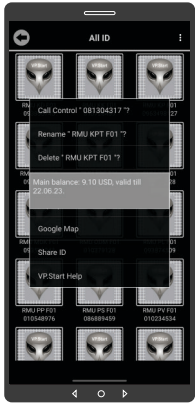


Fig. 137

Balance interface showed.

## 25 Google Map

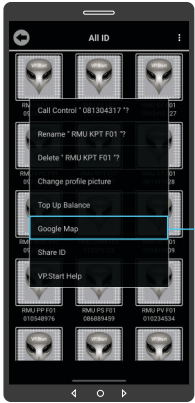


Fig. 138

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

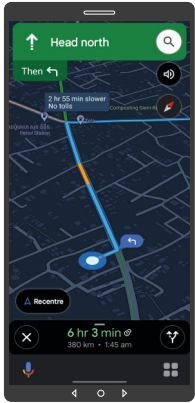


Fig. 139

Google Map Drive Mode showed.





Fig. 140

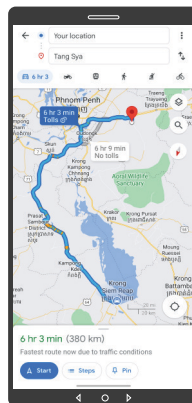


Fig. 141

## 26 Share ID

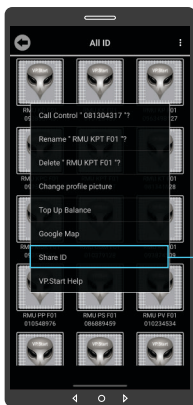


Fig. 142



Fig. 143



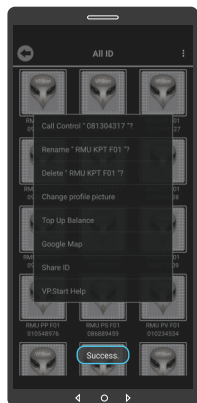


Fig. 144

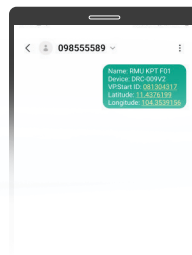
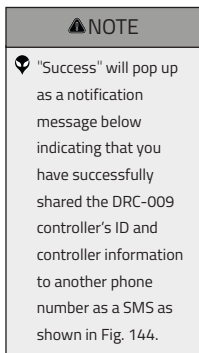
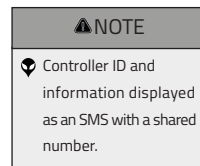


Fig. 145



## 27 VP.Start Help

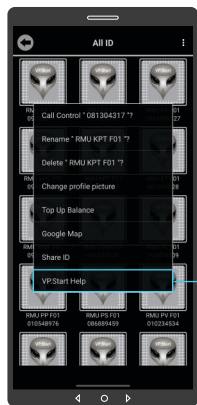


Fig. 146

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

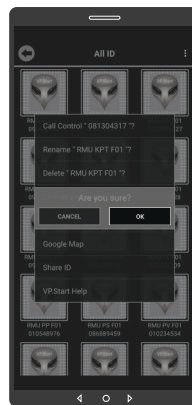


Fig. 147

Click on "OK" button. The app will command the DRC-009 controller to automatically share its ID information and call directly to VP.Start's call center to alert our support team immediately.



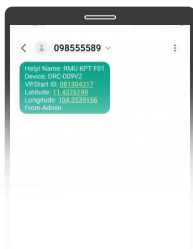


Fig. 148

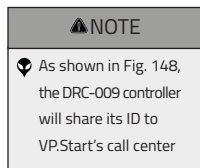


Fig. 149

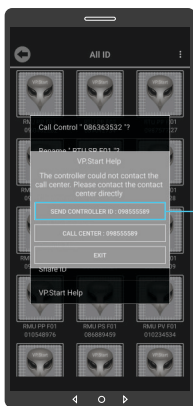
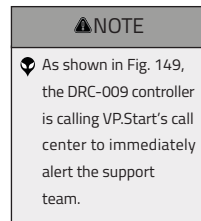


Fig. 150

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.

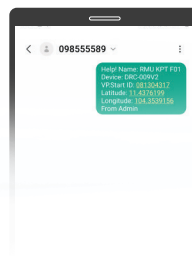
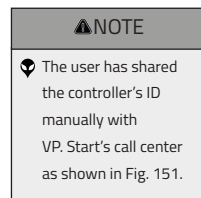


Fig. 151



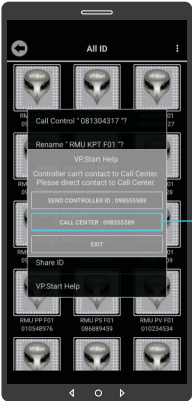


Fig. 152

Or Click on "CALL CENTER:  
098 555 589"  
to call to VP. Start's  
call center.



Fig. 153

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

## 28 Alarm System



Fig. 154

Switchgear OFF  
Alarm.

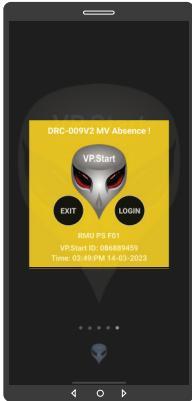


Fig. 155

MV Absence Alarm.



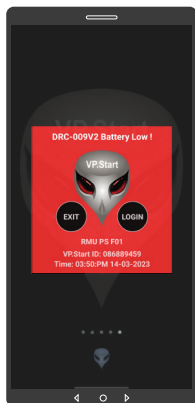


Fig. 156

Battery Low Alarm.



Fig. 157

Phase Fault Alarm.



Fig. 158

Ground Fault Alarm.



Fig. 159

Door Open Alarm.





Fig. 160

**NOTE**

An alarm notification message will appear whenever the system detects a problem such as Switchgear OFF, MV Absence, Battery Low, Phase Fault, Ground Fault and Door Open.

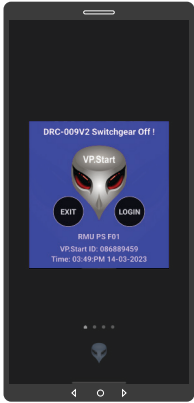


Fig. 161

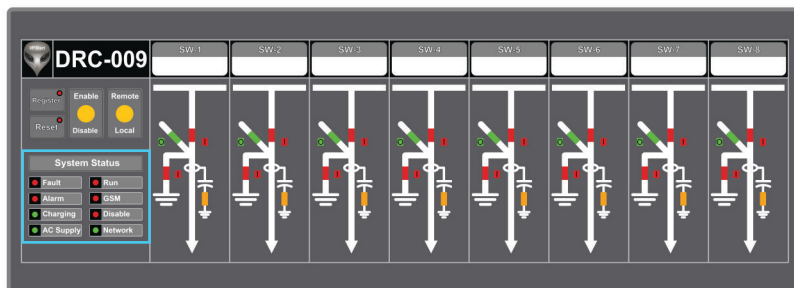
**NOTE**

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
<b>Fault</b>	On	Current fault alarm
<b>Alarm</b>	On	Battery low alarm
<b>Charging</b>	On	Charging to battery
<b>AC Supply</b>	On	AC Power Supply
<b>Run</b>	Red (blinking every 1s)	Running normally
<b>GSM</b>	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
<b>Disable</b>	On	Disable operation (Local & Remote)
<b>Network</b>	On	Communication over Ethernet port OK





# CONTACT US



## VP.Start



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