Dynamic Load Balancing and Adaptative Load Management for single dwellings and multisite

AUTEL®

Green Energy Powers the Future

MaxiCharger

Local DLB - for 8 Chargers or less

The 3 options available for local load management which can be implemented for 1 to 8 chargers is either static or dynamic for a single charger or multiple charger installs.

In the multisite charger set up you can choose your primary charge point and they will control the secondary charge points and this can be set up via the Autel Config App.

Download the Autel Config APP here

https://apps.apple.com/gb/app/autel-config/id1607007731

https://play.google.com/store/apps/details?id=com.autel.config&hl=en_GB&gl=US

You can limit the max kilowatts for the charger group, so the group does not exceed the max load available as chosen by the installer.

In the set up on the next page this illustrates how to arrange local dynamic balancing for 8 charge points on a multisite with three different options, the first being Ethernet and Wi-Fi, the second option using the Ethernet cable for all the charge points and the third option using a mix of ethernet connections in the same local area network and Wi-Fi.

- **Option 1** – Connect a Primary charge point via ethernet cable and connect the other secondary charge points via Wi-Fi to the same Local Area Network.

- **Option 2** – Connect all 8 charge points via an individual ethernet connection going back to the router (Recommended for stability)

- **Option 3** – Connect charge points into the available LAN ports and the other charge points can be connected via Wi-Fi (Recommended as the lowest and most effective way)

Local Dynamic Load Balancing - for 8 Chargers or less

Grid

Supply Cabinet

We recommend using an upstream Type A RCD.

Back Office

RCD/Type A

Router

Ethernet Cable

Primary Charger

Secondary Charger

Secondary Charger

Secondary Charger

Secondary Charger

Secondary Charger

Secondary Charger

Secondary Charger

WiFi/Ethernet Cable

EV
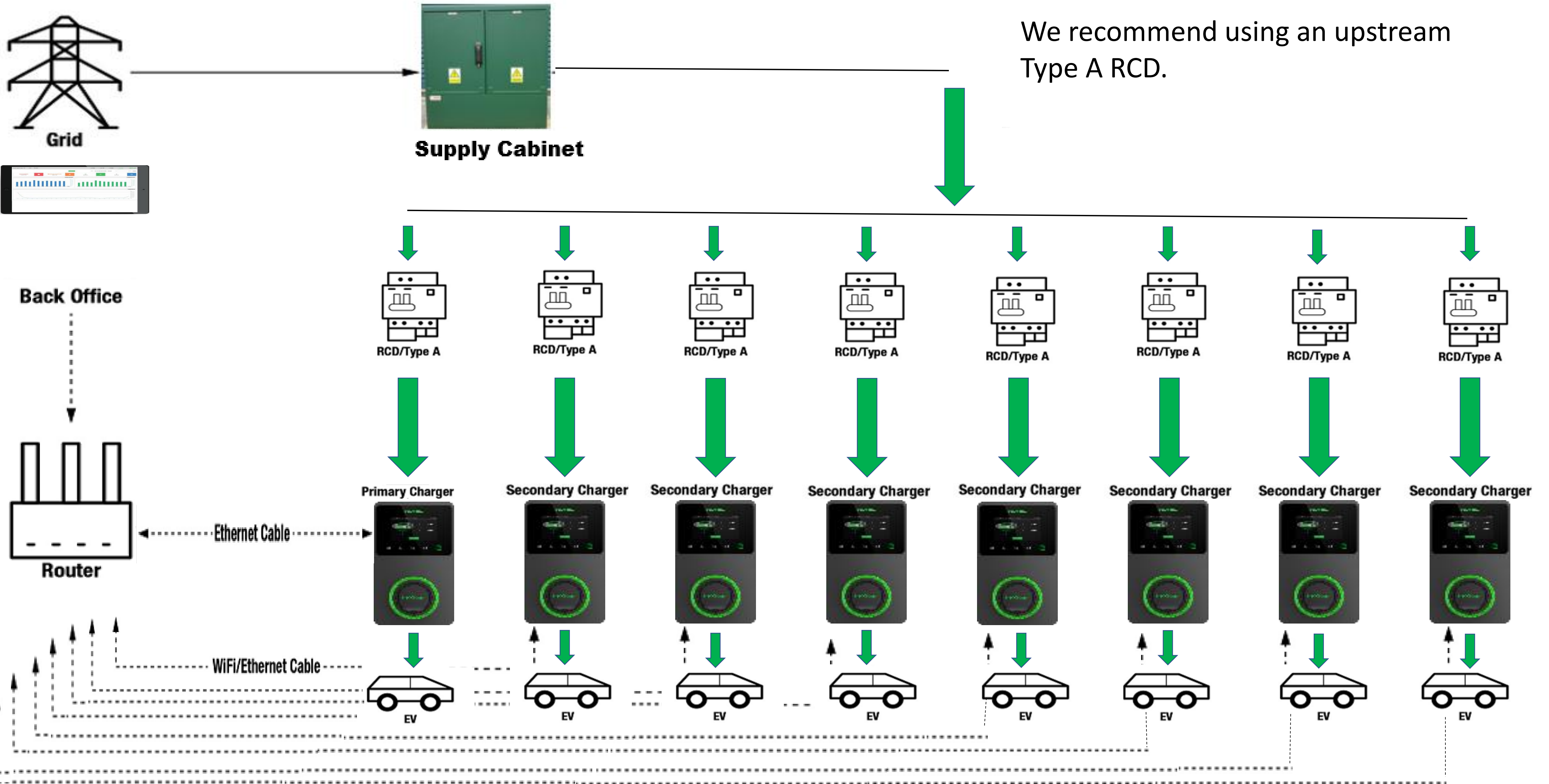
Cloud Dynamic Loading Balancing – Available for any amount of chargers

The 2 options available for Cloud dynamic load management which can be implemented for any amount of chargers as either static or dynamic for a single charger or multiple charger installs.

Cloud dynamic load management is recommended for big installations and multiple charger scenarios.

The cloud is the central controller in this case and set up can via your cloud account portal.

In the set up on the next page this illustrates how to install a cloud based dynamic load balancing system for 9 chargers on a multisite with 2 different options, the first being Ethernet/Wi-Fi and the second option using 4G.

Cloud DLB is available for 2 chargers or more, below explains for 2 options available:

- **Option 1** – Autel Cloud connects to the Internet and communicates with the charge points via OCPP 1.6J. The charge points connect to the Internet via Ethernet/Wi-Fi locally. They will be grouped by adding their serial numbers to a smart charger group on Autel Cloud Portal manually by the user.

- **Option 2** – Autel Cloud connects to the Internet and communicates with charge points via OCPP 1.6J. The charge points connect to the Internet via 4G. They will be grouped by adding their serial numbers to a smart charger group via Autel Cloud Portal manually by the user.

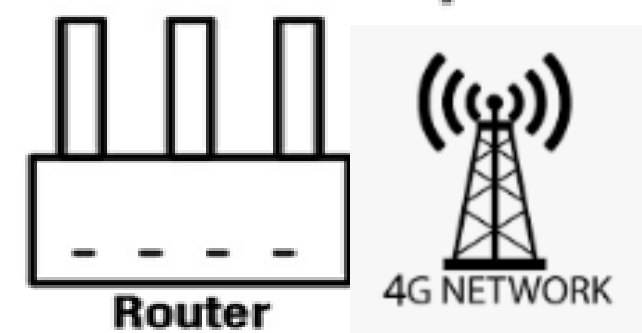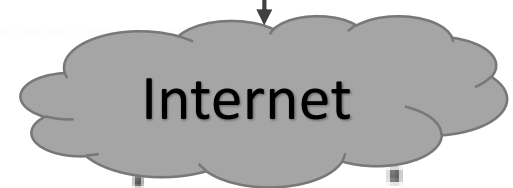# Cloud Dynamic Loading Balancing - Available for any amount of chargers

Grid

Supply Cabinet

Autel Cloud – Primary Hub

We recommend using an upstream Type A RCD.

OCPP 1.6J

Internet

Router

4G NETWORK

Ethernet/Wi-Fi

RCD/Type A   RCD/Type A   RCD/Type A   RCD/Type A   RCD/Type A   RCD/Type A   RCD/Type A   RCD/Type A   RCD/Type A

Secondary Charger   Secondary Charger   Secondary Charger   Secondary Charger   Secondary Charger   Secondary Charger   Secondary Charger   Secondary Charger   Secondary Charger

EV   EV   EV   EV   EV   EV   EV   EV   EV
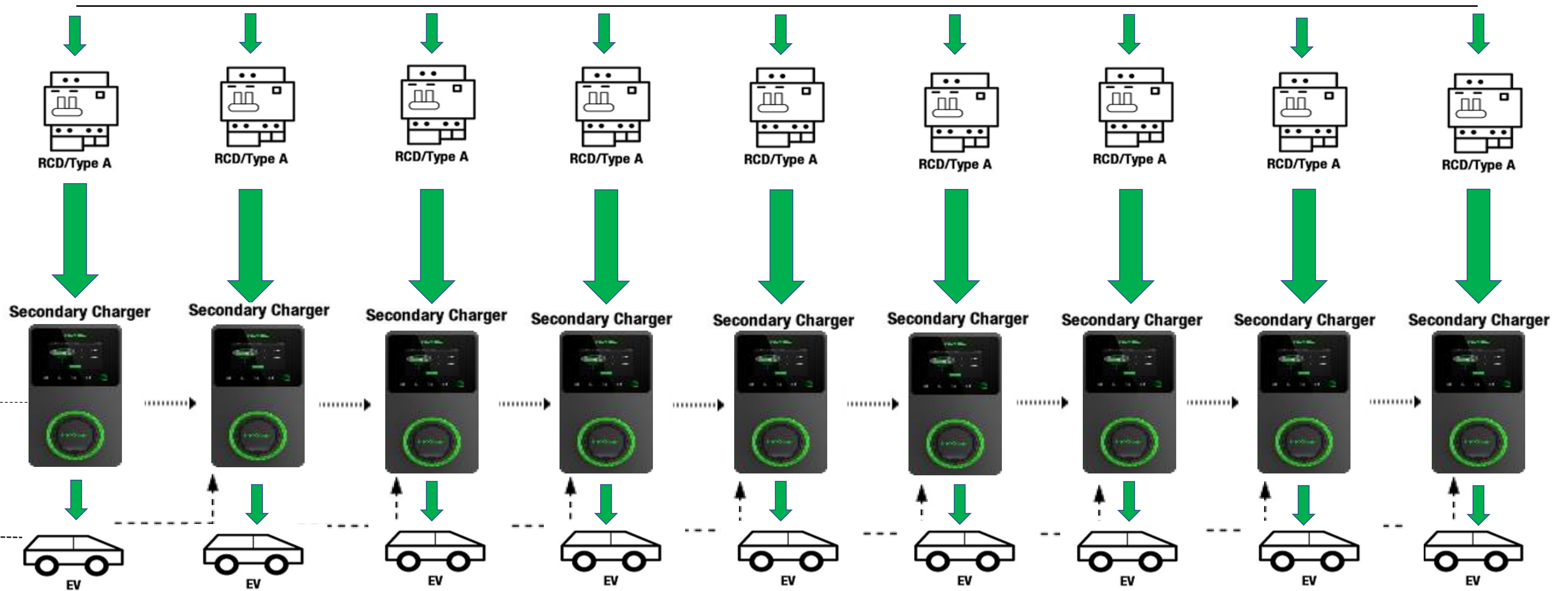
Connect charger Points via Ethernet/Wi-Fi or 4G

Local Adaptive Load Management – Single Dwelling

Local Adaptive Load Management known as ALM allows the charger and the building to talk to each other, meaning the EV benefits from always getting the maximum amount of kilowatts depending on what is going on with the building load.

ALM is useful for customers that have supply limitations due to high usage at peak times of the day.
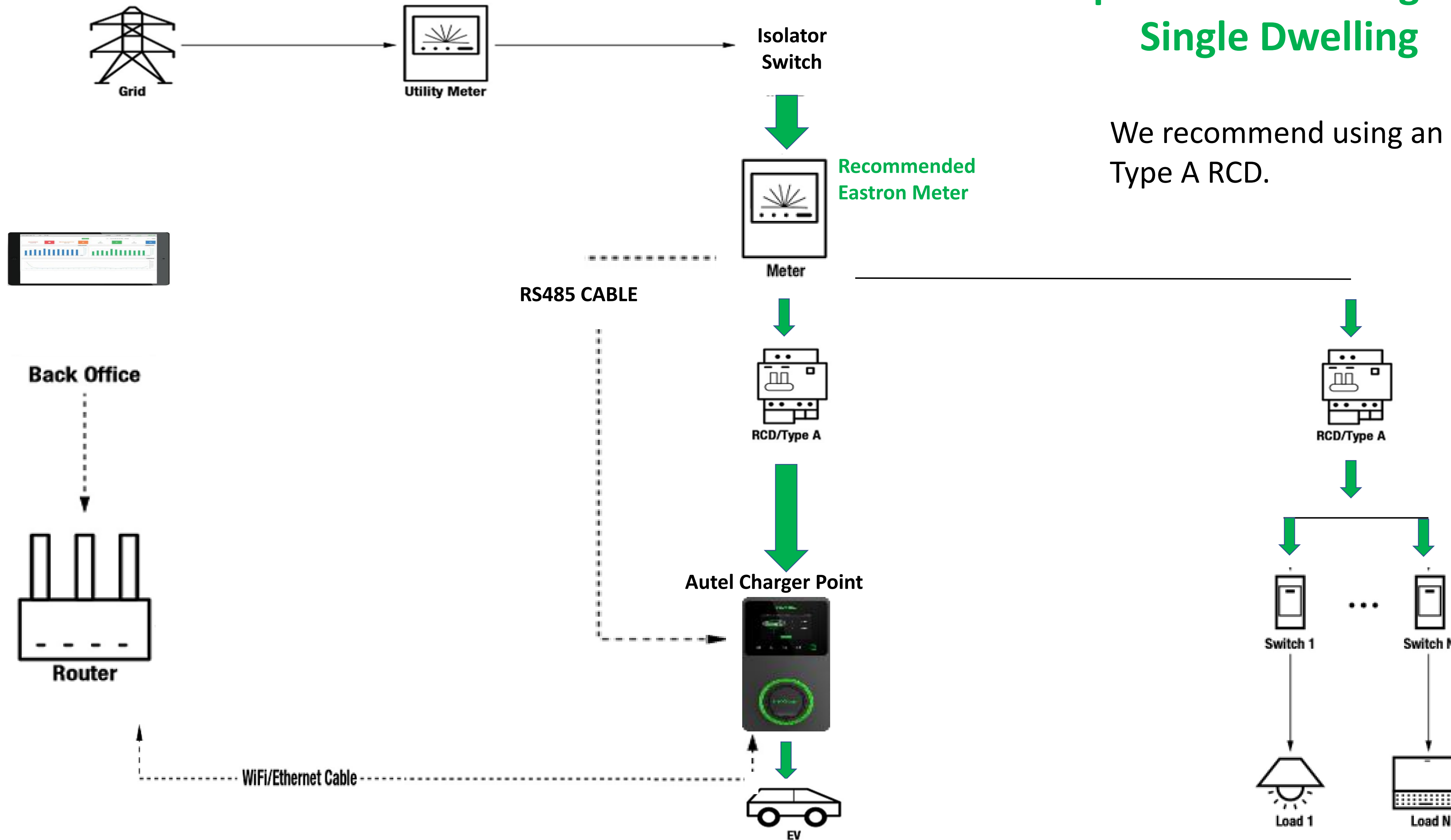
RS485 cable must be connected from Eastron Meter and to the EV charge point

In the set up on the next page this illustrates how to install a single charger with an Eastron meter upstream connected before the consumer unit, with the charger connected via ethernet or Wi-Fi.

If your maximum demand is higher the 60 AMPs you must ensure your charger has ALM.

Adaptive Load Management
Single Dwelling

We recommend using an upstream Type A RCD.

Grid

Utility Meter

Isolator Switch

Recommended Eastron Meter

Meter

RS485 CABLE

RCD/Type A

RCD/Type A

Back Office

Router

Autel Charger Point

WiFi/Ethernet Cable

EV

Switch 1

Switch N

Load 1

Load N

Local Adaptive Load Management - Available for up to 8 chargers

Local Adaptive Load Management known as ALM allows the charger group to monitor the total load in the building, meaning the charger group will benefit from the maximum amount of kilowatts depending on what is available.

ALM is useful for customers that have supply limitations due to high usage at peak times of the day, example is a manufacturing company that uses machinery at certain times of the day.

In the multisite charger set up you can choose your primary charger and they control the secondary chargers and this can be set up via the Autel Config App.

RS485 cable must be connected from Eastron Meter and to the Primary EV charger.

In the set up on the next page this illustrates how to install multiple chargers on a multisite with an Eastron meter upstream connected after the consumer unit with the chargers connected via ethernet or Wi-Fi.

- **Option 1** – Connect a Primary charger via ethernet cable and connect the other secondary chargers via Wi-Fi to the same Local Area Network.

- **Option 2** – Connect all 5 chargers via an individual ethernet connection going back to the router (Recommended for stability)

- **Option 3** – Connect chargers into the available LAN ports and the other chargers can be connected via Wi-Fi (Recommended as the lowest and most effective way)

Local Adaptive Load Management - Available for 8 chargers

We recommend using an upstream Type A RCD.