Load management LS4, GTB+, and GLB+

Important:
Any modifications performed on the controller are done at your own risk. GARO is not responsible for any issues caused by incorrect handling or unauthorized changes.

Note, this must be done by a certified electrician

Load management is a critical aspect of installing EV charge points. It involves the effective control and optimization of electrical loads to ensure the safe and efficient operation of systems of the equipment. Three main types of load management are "Managing Operator Current Limit", "Load Management with static value" and "Dynamic Load Management with external meter."

To configure load management, you will need to access the charger's controller through either the new or legacy web interface. Follow the steps provided for the specific web interface you are using.

Before You Start:
You will need a Laptop and a micro-USB to USB-A cable (important that the cable has possibilities for data transfer and not only charging).
This cable should be plugged in from your laptop to the charge controller. If the charger has two charge controllers make sure you plug into the charge controller on the right-hand side and DO NOT remove any cables between the charge controllers.

Step 1.
Plug in the Micro-USB in the controller's config port.

GLB+ only has one controller (see picture below)

Twin+ & LS4 has 2 controllers (see picture below)

Step 2.
Once plugged into the controller open a web browser and navigate to one of the following IP addresses:

- **New Interface** (white background) - refer to page 3
  192.168.123.123
- **Legacy Interface** (red background) - refer to page
  192.168.123.123/legacy/operator/operator

Note, if you can't access the legacy interface with above IP address please try:

GLB+
192.168.123.123/operator/operator

TWIN+, LS4:
192.168.123.123:81/operator/operator ***Outlet 1***
192.168.123.123:82/operator/operator ***Outlet 2***

Login Credentials for both the New and the Legacy Interface:

- Username: operator
- Password: cherry_zone or yellow_zone

Operator Current Limit

Configuring operator current limit through the new Interface

Access the New Interface via IP address: 192.168.123.123

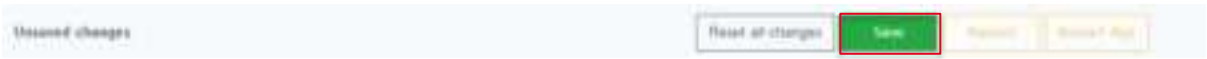
1. Navigate to “LOAD MANAGEMENT” -> “Local” tab (wait for the page to fully load)

2. Locate the options:
"Operator Current Limit [A]" and
" Operator Current Limit [A]"(Connector 2)" (the latter is available only for LS4 and GTB+).

3. Set the desired current on "Operator Current Limit [A]"

- For outlet 1, "Operator Current Limit [A]"
- For outlet 2 (LS4/Twin+ only): " Operator Current Limit [A]"(Connector 2)"

4. On bottom of the screen, click “Save” to save the configuration. Once saved, the operator current limit should be set, and you can now try a charging session to confirm.



Configure operator current limit for outlet(s) through the Legacy Interface

For Twin+ and LS4 you need to adjust both controllers separately in legacy interface.

Access the Legacy Interface via IP address:
192.168.123.123:81/legacy/operator/operator ***Outlet 1***
or 192.168.123.123:82/legacy/operator/operator ***Outlet 2***

Note, if you can't access the legacy interface with above IP address please try:
GLB+
192.168.123.123/operator/operator

TWIN+, LS4:
192.168.123.123:81/operator/operator ***Outlet 1***
192.168.123.123:82/operator/operator ***Outlet 2***

After logging into the charge controller(s), follow these steps.

1. Go to the "Settings" tab and scroll down until you see "Operator Current Limit".
2. Set the desired current on "Operator Current Limit [A]"

3. On bottom of the screen, click "**Save & Restart**" to save the configuration. Once the controller has been restarted the operator current limit should be set, and you can now try a charging session to confirm.

Load Management with static value

Note, if there's different/individual group fuse for each charger you might have to lower each charger's outlet(s) Operator Current Limit to match the fuse size. How Operator Current Limit is configured is mentioned on page 3-4.

Example: If there's a 250A fuse in a cabinet which feeds 3 chargers which each has a separate 25A group fuse you would have to set EVSE Sub-Distribution Limit and EVSE Sub- Distribution Limit to 250 and then lower the Operator Current Limit for each outlet to 12A, otherwise the group fuses would trip.

Configuring load management with static value through the new Interface

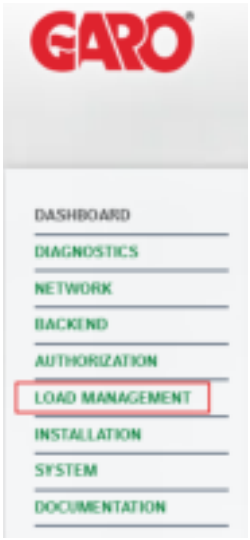
Access the New Interface via IP address: 192.168.123.123

Instructions below describes how you configure a charger to be a DLM master or a DLM Slave

DLM Master

After logging into the charge controller(s), follow these steps.

1. Click on Load Management



2. Click on dropdown for Dynamic Load Management – DLM Master/Slave, Choose DLM Master (With internal DLM Slave), Once the option is selected you will see further settings

3. Set **EVSE Sub-Distribution Limit** and **EVSE Sub- Distribution Limit** to the ampere that's always available to the group of chargers.

- On the bottom of the screen, click "**Save**" and then "**Restart"**. Once restarted the settings should be applied.
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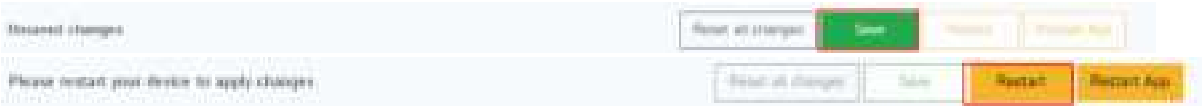
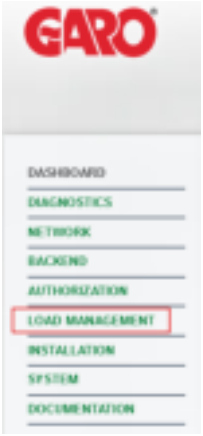


DLM Slave

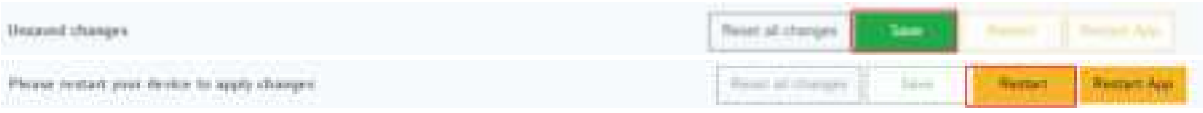
After logging into the charge controller, follow these steps.

1. Click on Load Management



2. Click on dropdown for Dynamic Load Management – DLM Master/Slave, Choose DLM Slave (Master-Auto-Discovery)

3. On bottom of the screen, click on **"Save"** and then **"Restart",** Once restarted the settings should be applied



Configuring load management with static value through the Legacy Interface

For Twin+ and LS4 you need to adjust both controllers separately in legacy interface.

Example: If a charger (Twin+/LS4) should be configured as a DLM master you would also need to configure the right controller in this charger to be a "DLM Slave (Master-Auto-Discovery)". If the charger should be a DLM slave, you would need to set both controllers to "DLM Slave (Master-Auto-Discovery)".

Access the Legacy Interface via IP address:
192.168.123.123:81/legacy/operator/operator ***Outlet 1***
or 192.168.123.123:82/legacy/operator/operator ***Outlet 2***

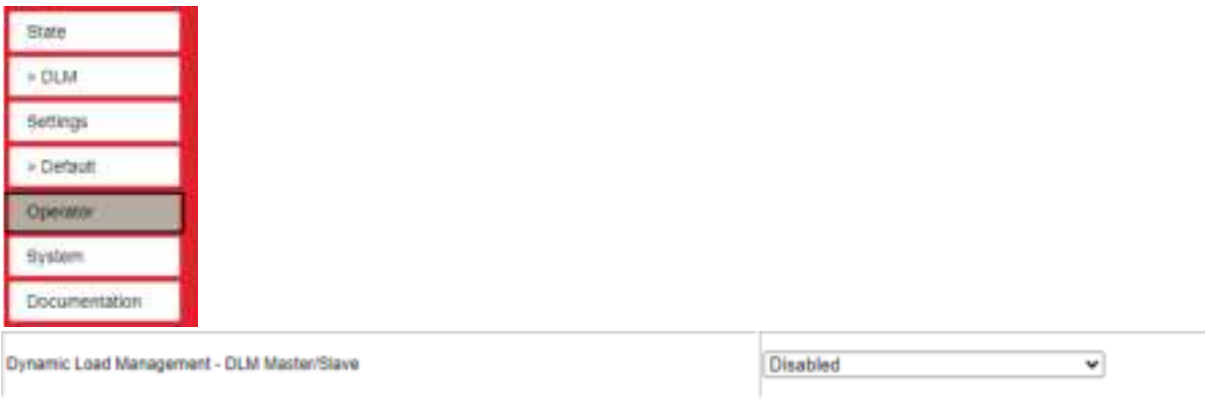
Note, if you can't access the legacy interface with above IP address please try:
GLB+
192.168.123.123/operator/operator

TWIN+, LS4:
192.168.123.123:81/operator/operator ***Outlet 1***
192.168.123.123:82/operator/operator ***Outlet 2***

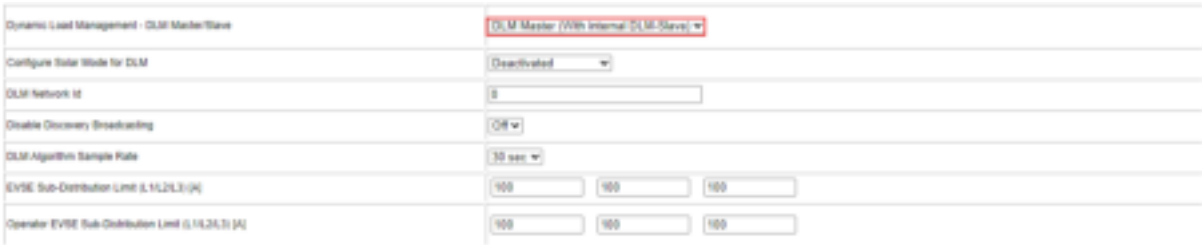
DLM Master

After logging into the charge controller, follow these steps.

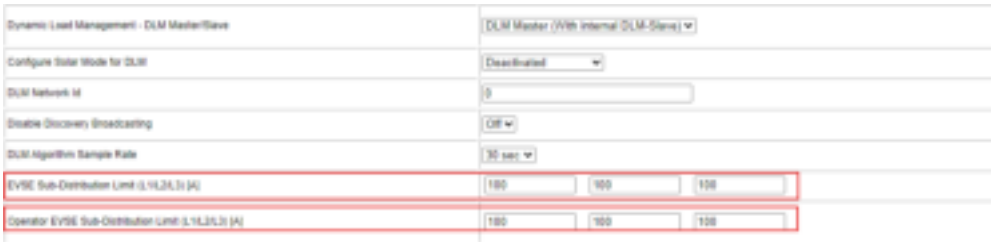
1. Click on Operator and scroll down until you find**"** Dynamic Load Management - DLM Master/Slave"



- Click on dropdown for Dynamic Load Management – DLM Master/Slave, Choose DLM Master (With internal DLM Slave), Once the option is selected you will see further settings



2. Set **EVSE Sub-Distribution Limit** and **EVSE Sub- Distribution Limit** to the ampere that's always available to the group of chargers.



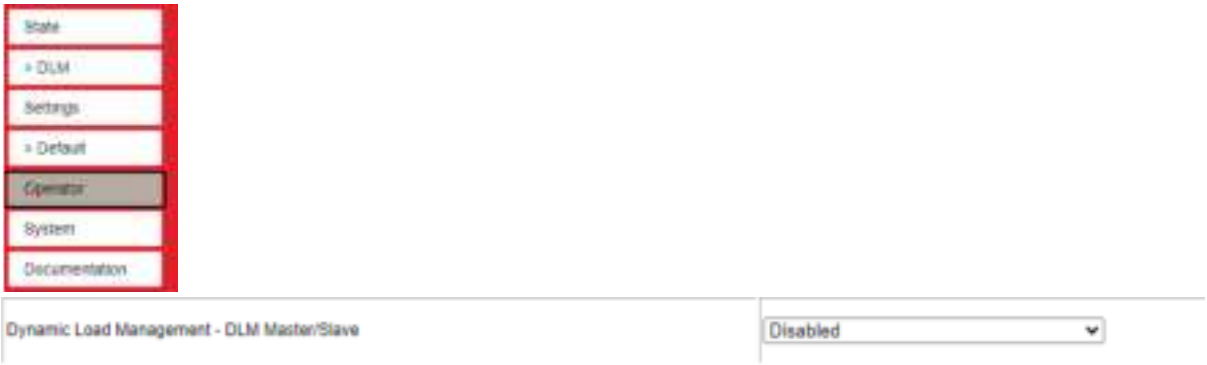
3. On bottom of the screen, click “Save & Restart” to save the configuration. Once restarted the settings should be applied.

<u>Note, if it’s a Twin+/LS4 acting as DLM Master, you would also need to configure the right controller in this charger to be a “DLM Slave (Master-Auto-Discovery)”.</u>

DLM Slave

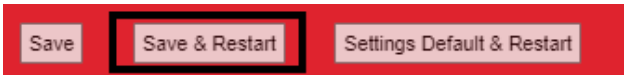
After logging into the charge controller, follow these steps

1. Click on Operator and scroll down until you find**”** Dynamic Load Management - DLM Master/Slave”



2. Click on dropdown for Dynamic Load Management – DLM Master/Slave, Choose DLM Slave (Master-Auto-Discovery)

3. On bottom of the screen, click “**Save & Restart**” to save the configuration. Once restarted the settings should be applied. **For a charger with dual controllers (Twin+/LS4) you repeat these steps on the right controller.**



Dynamic Load Management with external meter

Note, an external meter needs to be correctly installed and connected to the charger acting as DLM master before configuring the charger's controller(s).

For manuals regarding the external meter types we support, see link below:
https://www.garo.se/sv/proffs/support/support-e-mobility/energimatare/manualer

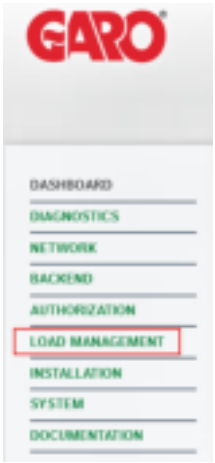
Configuring load management with external meter through the new Interface

Access the New Interface via IP address: 192.168.123.123

DLM Master

After logging into the charge controller(s), follow these steps.

1. Click on Load Management



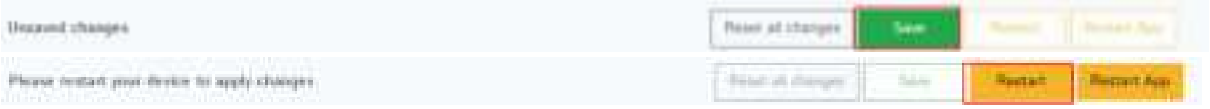
- Click on dropdown for Dynamic Load Management – DLM Master/Slave, Choose DLM Master (With internal DLM Slave), Once the option is selected you will see further settings

2. Set **EVSE Sub-Distribution Limit** and **EVSE Sub- Distribution Limit** to groups fuse value

4. Set the External Meter Support to "**ON**" Once the option is selected you will see further settings.

5. Choose the correct meter type according to the installed external meter on the dropdown menu for "Meter configuration (Second) and set "Main Distribution Limit" to the fuse value where the external meter is located and measures

- On the bottom of the screen, click "**Save**" and then "**Restart"**. Once restarted the settings should be applied.

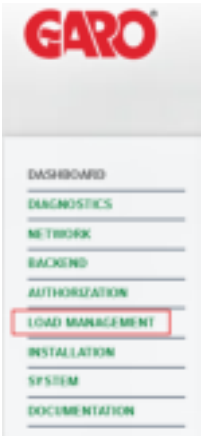


6. After restart, press on "**Diagnostics**" and check "Error(s)" so that it doesn't indicate "External meter not communicating". If the error is present you would need to check the cables from the external meter towards the charger and the configuration of the external meter.

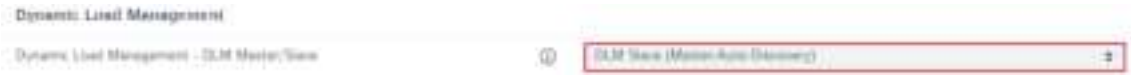
DLM Slave

After logging into the charge controller, follow these steps.

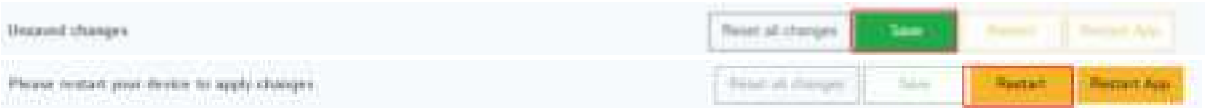
1. Click on Load Management



2. Click on dropdown for Dynamic Load Management – DLM Master/Slave, Choose DLM Slave (Master-Auto-Discovery)



- On the bottom of the screen, click on **"Save"** and then **"Restart",** Once restarted the settings should be applied



Configuring load management with external meter through the Legacy Interface

For Twin+ and LS4 you need to adjust both controllers separately in legacy interface.

Access the Legacy Interface via IP address:
192.168.123.123:81/legacy/operator/operator ***Outlet 1***
or 192.168.123.123:82/legacy/operator/operator ***Outlet 2***

Note, if you can't access the legacy interface with above IP address please try:
GLB+
192.168.123.123/operator/operator

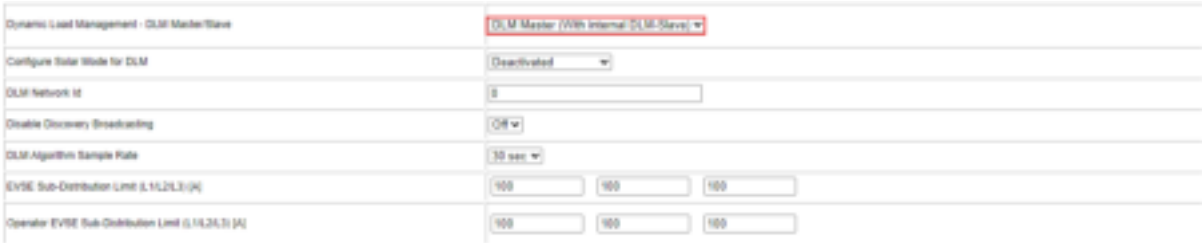
TWIN+, LS4:
192.168.123.123:81/operator/operator ***Outlet 1***
192.168.123.123:82/operator/operator ***Outlet 2***

DLM Master

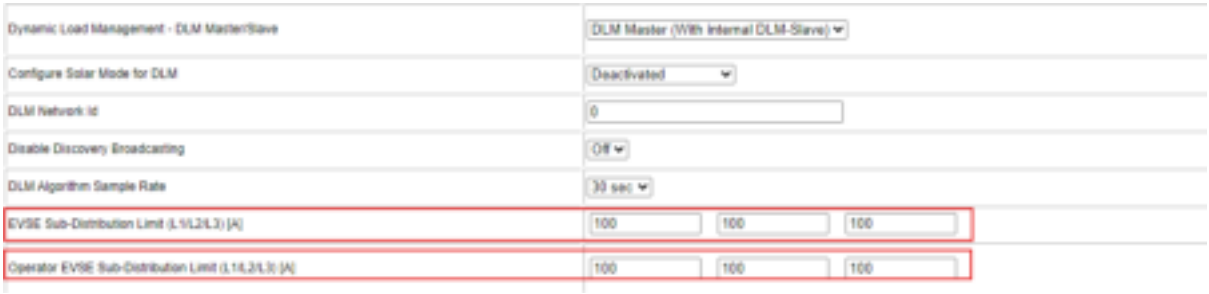
After logging into the charge controller, follow these steps.

1. Click on Operator and scroll down until you find**"** Dynamic Load Management - DLM Master/Slave"

2. Click on dropdown for Dynamic Load Management – DLM Master/Slave, Choose DLM Master (With internal DLM Slave), Once the option is selected you will see further settings

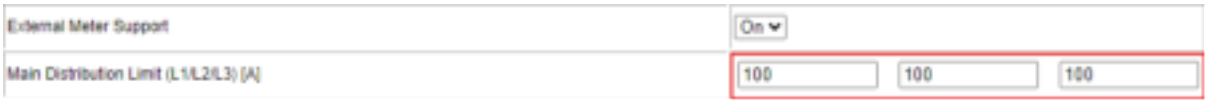


3. Set **EVSE Sub-Distribution Limit** and **EVSE Sub- Distribution Limit** to groups fuse value



4. Set the External Meter Support to "**ON**" Once the option is selected you will see further settings.

5. Set "**Main Distribution Limit**" to the fuse value where the external meter is located and measures



6. Scroll down until you find "**Meter Configuration (Second)**", on the dropdown menu, choose the correct meter type according to the installed external meter

- On the bottom of the screen, click "**Save & Restart**" to save the configuration. Once restarted the settings should be applied.

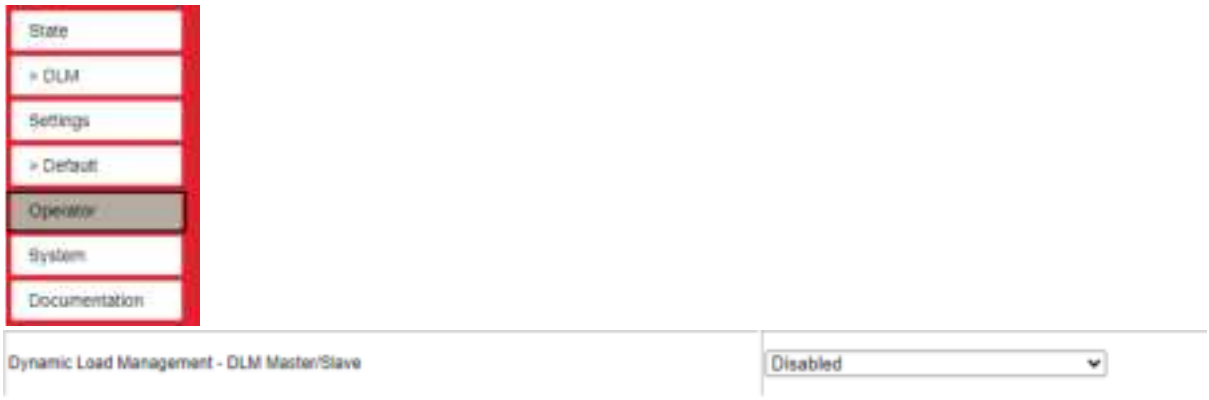
7. After restart, press on "State" and check "Error(s)" so that it doesn't indicate "External meter not communicating". If the error is present you would need to check the cables from the external meter towards the charger and the configuration of the external meter.

Note, if it's a Twin+/LS4 acting as DLM Master, you would also need to configure the right controller in this charger to be a "DLM Slave (Master-Auto-Discovery)".

DLM Slave

After logging into the charge controller, follow these steps

1. Click on Operator and scroll down until you find" Dynamic Load Management - DLM Master/Slave"



2. Click on dropdown for Dynamic Load Management – DLM Master/Slave, Choose DLM Slave (Master-Auto-Discovery)

- On the bottom of the screen, click "**Save & Restart**" to save the configuration. Once restarted the settings should be applied. **<u>For a charger with dual controllers (Twin+/LS4) you repeat these steps on the right controller.</u>**

Important:

Any modifications performed on the controller are done at your own risk. GARO is not responsible for any issues caused by incorrect handling or unauthorized changes.

For further information, please contact:

Support E-mobility (EV charging, GARO Connect, G-Cloud)

Contact: Click here!