

The smart residential energy storage system

# HOME 6 | 10 | 15



## Key Facts

# 15

Power in kW

# 8.4- 156.8

Capacity in kWh

# 22.5

Integrated PV connection in kWp  
and for up to three directions

## Benefits

- Intelligent integration of wallboxes, heat pumps and a heating element\*
- Self-Consumption Optimization 2.0 with AI-optimized utilization of time-of-use tariffs\*
- 3-phase emergency power supply with solar recharging and black-start capability
- Plug-&-Play installation
- All-in-one system featuring a compact high-voltage battery, a flexible DC, AC and hybrid inverter, intelligent energy management FEMS, and service from a single source
- Ready for your Energy Journey: Modularly expandable with battery modules and FEMS apps

\* FEMS App Self-Consumption Optimization and FEMS App Grid Optimized Charge included. Further apps optional.

# System

Product warranty 10 years



| Installation / Ambient conditions            |            |
|----------------------------------------------|------------|
| Ingress Protection                           | IP55       |
| Operating altitude in m                      | ≤ 2,000    |
| Installation temperature in °C               | -20 to +50 |
| Operating temperature in °C*                 | -20 to +55 |
| Optimal battery operating temperature in °C* | +15 to +30 |
| Max. grid connection in A                    | 120        |

\* Outside of the optimal operating temperature range, the (dis-)charging performance may be reduced.

| Certifications and Directives |                                                                              |
|-------------------------------|------------------------------------------------------------------------------|
| Overall system                | CE<br>VDE 2510-50                                                            |
| Inverter                      | VDE 4105:2018-11<br>TOR Generator Type A 1.1                                 |
| Battery                       | UN38.3<br>IEC62619<br>EMV (complete)                                         |
| Other countries               | Sweden (registered Rikta Rätt),<br>Netherlands (Synergrid C10/11<br>planned) |

# Battery module



|                                |                                  |
|--------------------------------|----------------------------------|
| Cell technology                | Lithium iron phosphate (LiFePO4) |
| Module weight in kg            | 29.6                             |
| Nominal module capacity in kWh | 2.87                             |
| Usable module capacity in kWh  | 2.8                              |
| Expandable capacity            | Yes                              |
| Dimensions (W   D   H) in mm   | 506   401   140                  |
| Capacity warranty*             | 12 years or 6,000 cycles         |

\* Find further information in our warranty terms at [www.docs.fenecon.de](http://www.docs.fenecon.de).

# Inverter



| Product name | Home 6<br>FINV-6-2-DAH | Home 10<br>FINV-10-2-DAH | Home 15<br>FINV-15-2-DAH |
|--------------|------------------------|--------------------------|--------------------------|
|--------------|------------------------|--------------------------|--------------------------|

| DC connection                              |           |    |      |
|--------------------------------------------|-----------|----|------|
| Max. DC input power in kWp                 | 9         | 15 | 22.5 |
| MPP-Tracker                                | 2         | 3  | 3    |
| Inputs per MPPT                            | 1 (MC4)   |    |      |
| Starting voltage MPPT in V                 | 150       |    |      |
| Max. DC input voltage in V                 | 1,000     |    |      |
| MPPT voltage range in V                    | 120 - 850 |    |      |
| Nominal input voltage in V                 | 620       |    |      |
| Max. effective input current per MPPT in A | 16        |    |      |
| Max. short circuit current per MPPT in A   | 24        |    |      |
| Max. (dis-)charging power in kW            | 6         | 10 | 15   |

| AC connection                                     |                              |        |        |
|---------------------------------------------------|------------------------------|--------|--------|
| Grid connection                                   | 400/380 V, 3L/N/PE, 50/60 Hz |        |        |
| Max. output current (400 V) in A                  | 8.7                          | 14.5   | 21.7   |
| Max. input current (400 V) in A                   | 15.7                         | 26.1   | 26.1   |
| Nominal apparent power output in VA               | 6,000                        | 10,000 | 15,000 |
| Max. apparent power output in VA                  | 6,000                        | 10,000 | 15,000 |
| Max. apparent power of the electricity grid in VA | 7,200                        | 12,000 | 18,000 |
| Cos(Phi)                                          | -0.8 to +0.8                 |        |        |

| Emergency power                                       |                              |                   |                   |
|-------------------------------------------------------|------------------------------|-------------------|-------------------|
| Emergency power capability                            | Yes                          |                   |                   |
| Electrical network configuration                      | 400/380 V, 3L/N/PE, 50/60 Hz |                   |                   |
| Loads supplied with emergency power (per phase) in VA | 6,000<br>(2,000)             | 10,000<br>(3,333) | 15,000<br>(5,000) |
| Unbalanced load in VA                                 | 2,000                        | 3,333             | 5,000             |
| Black start capability                                | Yes                          |                   |                   |
| Solar recharging                                      | Yes                          |                   |                   |

| Efficiency             |      |      |      |
|------------------------|------|------|------|
| Max. efficiency in %   | 98.2 |      |      |
| Europ. efficiency in % | 97.2 | 97.5 | 97.5 |

| General specifications         |                    |    |    |
|--------------------------------|--------------------|----|----|
| Dimensions (W   D   H) in mm   | 496   221   460    |    |    |
| Weight in kg                   | 23                 | 25 | 25 |
| DC overvoltage protection      | Type 2             |    |    |
| Ripple control receiver inputs | Yes                |    |    |
| Cooling                        | Natural convection |    |    |

# System configurations



| Battery modules per tower         | 3   | 4    | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    | 13    | 14    |
|-----------------------------------|-----|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>Nominal capacity in kWh</b>    |     |      |       |       |       |       |       |       |       |       |       |       |
| 1 tower with x modules            | 8.6 | 11.5 | 14.3  | 17.2  | 20.1  | 22.9  | 25.8  | 28.7  | 31.5  | 34.4  | 37.3  | 40.1  |
| 2 towers with x modules each      |     |      |       |       |       | 45.9  | 51.6  | 57.3  | 63.1  | 68.8  | 74.6  | 80.3  |
| 3 towers with x modules each      |     |      |       |       |       |       |       |       | 94.6  | 103.2 | 111.8 | 120.4 |
| 4 towers with x modules each      |     |      |       |       |       |       |       |       |       | 137.6 | 149.1 | 160.6 |
| <b>Effective capacity in kWh*</b> |     |      |       |       |       |       |       |       |       |       |       |       |
| 1 tower with x modules            | 8.4 | 11.2 | 14.0  | 16.8  | 19.6  | 22.4  | 25.2  | 28.0  | 30.8  | 33.6  | 36.4  | 39.2  |
| 2 towers with x modules each      |     |      |       |       |       | 44.8  | 50.4  | 56.0  | 61.6  | 67.2  | 72.8  | 78.4  |
| 3 towers with x modules each      |     |      |       |       |       |       |       |       | 92.4  | 100.8 | 109.2 | 117.6 |
| 4 towers with x modules each      |     |      |       |       |       |       |       |       |       | 134.4 | 145.6 | 156.8 |
| <b>Nominal power in kW**</b>      |     |      |       |       |       |       |       |       |       |       |       |       |
| Nom. power in kW (6 kW inv.)      | 4.0 | 5.4  | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   |
| Nom. power in kW (10 kW inv.)     | 5.4 | 7.2  | 9.0   | 10.0  | 10.0  | 10.0  | 10.0  | 10.0  | 10.0  | 10.0  | 10.0  | 10.0  |
| Nom. power in kW (15 kW inv.)     | 5.4 | 7.2  | 9.0   | 10.8  | 12.5  | 14.3  | 15.0  | 15.0  | 15.0  | 15.0  | 15.0  | 15.0  |
| <b>Weight in kg</b>               |     |      |       |       |       |       |       |       |       |       |       |       |
| 1 tower with x modules            | 127 | 157  | 187   | 217   | 247   | 277   | 307   | 337   | 367   | 397   | 427   | 457   |
| 2 towers with x modules each      |     |      |       |       |       | 554   | 614   | 674   | 734   | 794   | 854   | 914   |
| 3 towers with x modules each      |     |      |       |       |       |       |       |       | 1,101 | 1,191 | 1,281 | 1,371 |
| 4 towers with x modules each      |     |      |       |       |       |       |       |       |       | 1,588 | 1,708 | 1,828 |
| <b>Height in mm (approx.)</b>     |     |      |       |       |       |       |       |       |       |       |       |       |
|                                   | 834 | 977  | 1,120 | 1,263 | 1,406 | 1,549 | 1,692 | 1,835 | 1,978 | 2,121 | 2,264 | 2,407 |

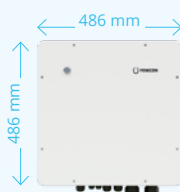
\* DC-side at 25 °C and 0.2 C

\*\* Average power at nominal voltage; The actual power depends on factors like state of charge, ambient and cell temperature.

## Inverter



## AVU (optional)\*

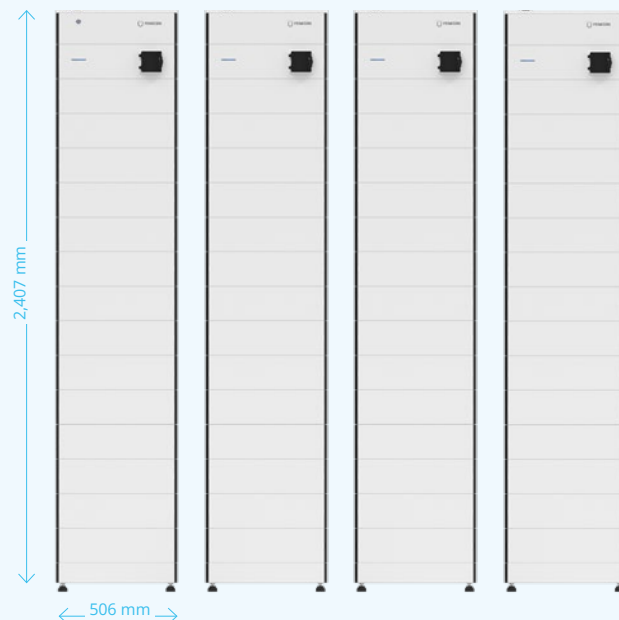


\*Compatible with Home 6 & 10 & 15

## System variant 1 tower with 3 modules



## System variant 4 towers with 14 modules each



# FEMS Hardware



## Hardware interfaces

|                                  |                                                                                                  |
|----------------------------------|--------------------------------------------------------------------------------------------------|
| Inputs                           | 4 digital inputs                                                                                 |
| Outputs (FEMS relay board)       | 3 wet contacts<br>(10 A per channel & metered),<br>2 dry contacts<br>1 analog output (0 to 10 V) |
| Communication between components | RS485 – Modbus RTU / LAN-Mod-<br>bus TCP                                                         |

## Communication interfaces

|                  |                                                                  |
|------------------|------------------------------------------------------------------|
| Connectivity     | LAN                                                              |
| Local interface  | Modbus TCP API, REST API<br>(read access, write access optional) |
| Online interface | Cloud REST API<br>(read access, write access optional)           |

## Software & future capability

|                                 |                                         |
|---------------------------------|-----------------------------------------|
| Operating system                | FEMS, based on OpenEMS<br>(Open Source) |
| Classification                  | OpenEMS Ready Gold                      |
| Updates                         | Unlimited, automatic & free of charge   |
| Feed-in management              | 0% (e.g., outside EEG) up to 100%       |
| Dynamic ripple control receiver | Standard                                |

## Advanced charging & discharging

|                                                     |                                       |
|-----------------------------------------------------|---------------------------------------|
| Grid-optimized charging                             | Standard                              |
| Time-of-use tariffs & time-variable<br>grid charges | Optional (compatible tariff required) |

## Options for sector coupling

|                                                            |          |
|------------------------------------------------------------|----------|
| Heating element controller                                 | Optional |
| Heat pump control „SG-Ready“                               | Optional |
| Threshold controller                                       | Optional |
| Manual relay controller                                    | Optional |
| Wallbox controller                                         | Optional |
| Controller for multiple wallboxes                          | Optional |
| Monitoring of further producers or<br>individual consumers | Optional |

# FEMS

FENECON Energy Management System



A system that selects the best route every day.

## Essential

FEMS is the heart of your energy system and is fully integrated into the energy storage system as a compact module right from the start.

## Future-proof

Thanks to FEMS, your energy storage system remains ready for whatever the future may bring. Optional FEMS apps allow you to expand your system with new devices, ideas, and possibilities at any time. All easily implemented thanks to our manufacturer-independent open-source approach.

## Intelligent

FEMS ensures optimal utilization of the energy you have generated. The AI-based forecast creates a holistic, customized energy roadmap in real time that takes into account weather data, consumption profiles, tariffs, and grid conditions.



More info  
about FEMS



Test it yourself  
with our demo access

FENECON GmbH  
Gewerbepark 6  
94547 Iggenbach  
Germany  
  
+49 9903 6280-0  
info@fenecon.de  
**www.fenecon.com**



More info about  
the product



The high-power residential energy storage system

# HOME 20 | 30



## Key Facts

# 30

Power in kW

# 14-168

Capacity in kWh

# 45

Integrated PV connection in kWp and for up to three orientations

## Benefits

- Intelligent integration of wallboxes, heat pumps and a heating element\*
- Self-Consumption Optimization 2.0 with AI-optimized utilization of time-of-use tariffs\*
- 3-phase emergency power supply with solar recharging and black-start capability
- Plug-&-Play installation
- All-in-one system featuring a compact high-voltage battery, a flexible DC, AC and hybrid inverter, intelligent energy management FEMS, and service from a single source
- Ready for your Energy Journey: Modularly expandable with battery modules and FEMS apps

\* FEMS App Self-Consumption Optimization and FEMS App Grid-Optimized Charging included. Further apps available optionally.

# System

Product warranty 10 years



## Installation / Ambient conditions

|                                              |            |
|----------------------------------------------|------------|
| Ingress Protection                           | IP55       |
| Operating altitude in m                      | ≤ 2,000    |
| Installation/operating temperature in °C     | -20 to +50 |
| Operating temperature in °C*                 | -20 to +55 |
| Optimal battery operating temperature in °C* | +15 to +30 |
| Max. grid connection in A**                  | 120        |

\* Outside of the optimal operating temperature range, the (dis-)charging performance may be reduced.

\*\* Higher supply currents are possible through optional meters.

## Certifications and Directives

|                 |                                                                              |
|-----------------|------------------------------------------------------------------------------|
| Overall system  | CE<br>VDE 2510-50                                                            |
| Inverter        | VDE 4105:2018-11<br>TOR Generator Type A 1.1                                 |
| Battery         | UN38.3<br>IEC62619<br>EMV (complete)                                         |
| Other countries | Sweden (registered Rikta Rätt),<br>Netherlands (Synergrid C10/11<br>planned) |

# Battery module



|                                            |                                  |
|--------------------------------------------|----------------------------------|
| Cell technology                            | Lithium iron phosphate (LiFePO4) |
| Module weight in kg                        | 29.6                             |
| Nominal capacity per battery module in kWh | 2.87                             |
| Usable capacity per battery module in kWh  | 2.8                              |
| Expandable capacity                        | Yes                              |
| Dimensions (W   D   H) in mm               | 506   401   140                  |
| Capacity warranty*                         | 12 years or 6,000 cycles         |

\* Find further information in our warranty terms at [www.docs.fenecon.de](http://www.docs.fenecon.de).

# Inverter



## Product name

Home 20  
FHI-20-DAH

Home 30  
FHI-29,9-DAH

## DC connection

|                                            |           |      |
|--------------------------------------------|-----------|------|
| Max. DC input power in kWp                 | 30        | 45   |
| MPP Trackers                               | 2         | 3    |
| Inputs per MPPT                            | 2 (MC4)   |      |
| Starting voltage MPPT in V                 | 200       |      |
| Max. DC input voltage in V                 | 1,000     |      |
| MPPT voltage range in V                    | 200 - 850 |      |
| Nominal input voltage in V                 | 620       |      |
| Max. effective input current per MPPT in A | 30        |      |
| Max. short circuit current per MPPT in A   | 38        |      |
| Max. (dis-)charging power in kW            | 20        | 29.9 |

## AC connection

|                                       |                              |        |
|---------------------------------------|------------------------------|--------|
| Grid connection                       | 400/380 V, 3L/N/PE, 50/60 Hz |        |
| Max. output current (400 V) in A      | 29                           | 43.3   |
| Max. input current (400 V) in A       | 45                           | 50     |
| Nominal apparent power output in VA   | 20,000                       | 29,900 |
| Max. apparent power of the grid in VA | 22,000                       | 29,900 |
| Cos(Phi)                              | -0.8 to +0.8                 |        |

## Emergency power

|                                                       |                              |                   |
|-------------------------------------------------------|------------------------------|-------------------|
| Emergency power capability                            | Yes                          |                   |
| Electrical network configuration                      | 400/380 V, 3L/N/PE, 50/60 Hz |                   |
| Loads supplied with emergency power (per phase) in VA | 20,000<br>(6,666)            | 29,900<br>(9,966) |
| Unbalanced load in VA                                 | 6,666                        | 9,966             |
| Black start capability                                | Yes                          |                   |
| Solar recharging                                      | Yes                          |                   |

## Efficiency

|                        |      |  |
|------------------------|------|--|
| Max. efficiency in %   | 98.0 |  |
| Europ. efficiency in % | 97.5 |  |

## General specifications

|                                |                 |    |
|--------------------------------|-----------------|----|
| Dimensions (W   D   H) in mm   | 520   220   660 |    |
| Weight in kg                   | 48              | 54 |
| DC surge protection            | Type 2          |    |
| Ripple control receiver inputs | Yes             |    |
| Cooling                        | Intelligent fan |    |

# System configurations

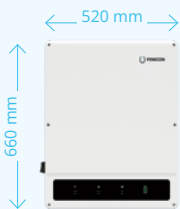


| Battery modules per tower         | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    |
|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>Nominal capacity in kWh</b>    |       |       |       |       |       |       |       |       |       |       |       |
| 1 tower with x modules            | 14.3  | 17.2  | 20.1  | 22.9  | 25.8  | 28.7  | 31.5  | 34.4  | 37.3  | 40.1  | 43.0  |
| 2 towers with x modules each      |       |       |       | 45.9  | 51.6  | 57.3  | 63.1  | 68.8  | 74.5  | 80.3  | 86.0  |
| 3 towers with x modules each      |       |       |       |       |       |       | 94.6  | 103.2 | 111.8 | 120.4 | 129.0 |
| 4 towers with x modules each      |       |       |       |       |       |       |       | 137.6 | 149.1 | 160.6 | 172.0 |
| <b>Effective capacity in kWh*</b> |       |       |       |       |       |       |       |       |       |       |       |
| 1 tower with x modules            | 14.0  | 16.8  | 19.6  | 22.4  | 25.2  | 28.0  | 30.8  | 33.6  | 36.4  | 39.2  | 42.0  |
| 2 towers with x modules each      |       |       |       | 44.8  | 50.4  | 56.0  | 61.6  | 67.2  | 72.8  | 78.4  | 84.0  |
| 3 towers with x modules each      |       |       |       |       |       |       | 92.4  | 100.8 | 109.4 | 117.6 | 126.0 |
| 4 towers with x modules each      |       |       |       |       |       |       |       | 134.4 | 145.6 | 156.8 | 168.0 |
| <b>Nominal power in kW**</b>      |       |       |       |       |       |       |       |       |       |       |       |
| Nom. power in kW (20 kW Inv.)     | 11.2  | 13.4  | 15.7  | 17.9  | 20.0  | 20.0  | 20.0  | 20.0  | 20.0  | 20.0  | 20.0  |
| Nom. power in kW (30 kW Inv.)     | 11.2  | 13.4  | 15.7  | 17.9  | 20.2  | 22.4  | 24.6  | 26.9  | 29.1  | 30.0  | 30.0  |
| <b>Weight in kg</b>               |       |       |       |       |       |       |       |       |       |       |       |
| 1 tower with x modules            | 187   | 217   | 247   | 277   | 307   | 337   | 367   | 397   | 427   | 457   | 487   |
| 2 towers with x modules each      |       |       |       | 554   | 614   | 674   | 734   | 794   | 854   | 914   | 974   |
| 3 towers with x modules each      |       |       |       |       |       |       | 1,101 | 1,191 | 1,281 | 1,371 | 1,461 |
| 4 towers with x modules each      |       |       |       |       |       |       |       | 1,588 | 1,708 | 1,828 | 1,948 |
| <b>Height in mm (approx.)</b>     |       |       |       |       |       |       |       |       |       |       |       |
|                                   | 1,120 | 1,263 | 1,406 | 1,549 | 1,692 | 1,835 | 1,978 | 2,121 | 2,264 | 2,407 | 2,550 |

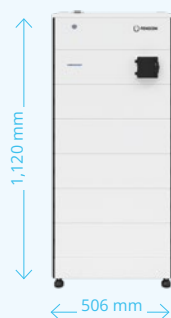
\* DC-side at 25 °C and 0.2 C

\*\* Average DC power at nominal voltage; The actual power depends on factors like state of charge, ambient and cell temperature and the operating mode.

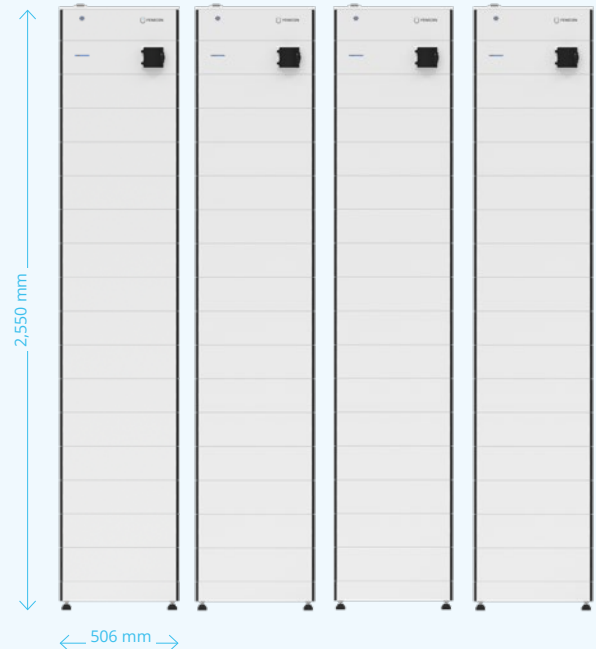
## Inverter



## System variant 1 tower with 5 modules



## System variant 4 towers with 15 modules each



# FEMS Hardware



## Hardware interfaces

|                                        |                                                                                                |
|----------------------------------------|------------------------------------------------------------------------------------------------|
| Inputs                                 | 4 digital inputs                                                                               |
| Outputs (FEMS relay board)             | 3 wet inputs<br>(10 A per channel & metered),<br>2 dry contacts<br>1 analog output (0 to 10 V) |
| Communication with external components | RS485 – Modbus RTU/LAN Modbus TCP                                                              |

## Communication interfaces

|                     |                                                                  |
|---------------------|------------------------------------------------------------------|
| Internet connection | LAN                                                              |
| Local interface     | Modbus TCP API, REST API<br>(read access, write access optional) |
| Online interface    | Cloud Rest API<br>(read access, write access optional)           |

## Software & future capability

|                                 |                                         |
|---------------------------------|-----------------------------------------|
| Operating system                | FEMS, based on OpenEMS<br>(Open Source) |
| Classification                  | OpenEMS Ready Gold                      |
| Updates                         | Unlimited, automatic & free of charge   |
| Feed-in management              | 0% (e.g., outside EEG) up to 100%       |
| Dynamic ripple control receiver | Standard                                |

## Advanced charging & discharging

|                                                  |                                       |
|--------------------------------------------------|---------------------------------------|
| Grid-optimized charging                          | Standard                              |
| Time-of-use tariffs & time-variable grid charges | Optional (compatible tariff required) |

## Options for sector coupling

|                                   |          |
|-----------------------------------|----------|
| Heating element controller        | Optional |
| Heat pump control „SG-Ready“      | Optional |
| Threshold controller              | Optional |
| Manual relay controller           | Optional |
| Wallbox controller                | Optional |
| Controller for multiple wallboxes | Optional |

# FEMS

FENECON Energy Management System



A system that selects the best route every day.

## Essential

FEMS is the heart of your energy system and is fully integrated into the energy storage system as a compact module right from the start.

## Future-proof

Thanks to FEMS, your energy storage system remains ready for whatever the future may bring. Optional FEMS apps allow you to expand your system with new devices, ideas, and possibilities at any time. All easily implemented thanks to our manufacturer-independent open-source approach.

## Intelligent

FEMS ensures optimal utilization of the energy you have generated. The AI-based forecast creates a holistic, customized energy roadmap in real time that takes into account weather data, consumption profiles, tariffs, and grid conditions.



More info about FEMS



Test it yourself with our demo access

FENECON GmbH  
Gewerbepark 6  
94547 Iggenbach  
Germany  
  
+49 9903 6280-0  
info@fenecon.de  
[www.fenecon.com](http://www.fenecon.com)



More info about the product



### 3.4. Technical Data — FENECON Parallel Box (optional)

| Description            | Value/Dimension          |
|------------------------|--------------------------|
| DC operating voltage   | 224 V to 672 V           |
| Max. Current (Battery) | 50 A                     |
| Operating Temperature  | -10 °C ~ 50 °C           |
| Ingress Protection     | IP55 (when plugged in)   |
| Width   Depth   Height | 506 mm   401 mm   157 mm |
| Weight                 | 10 kg                    |
| Installation           | stackable                |

Table 11. Technical Data — Parallel Box

### 3.4.1. Dimensions

The dimensions are given in mm.

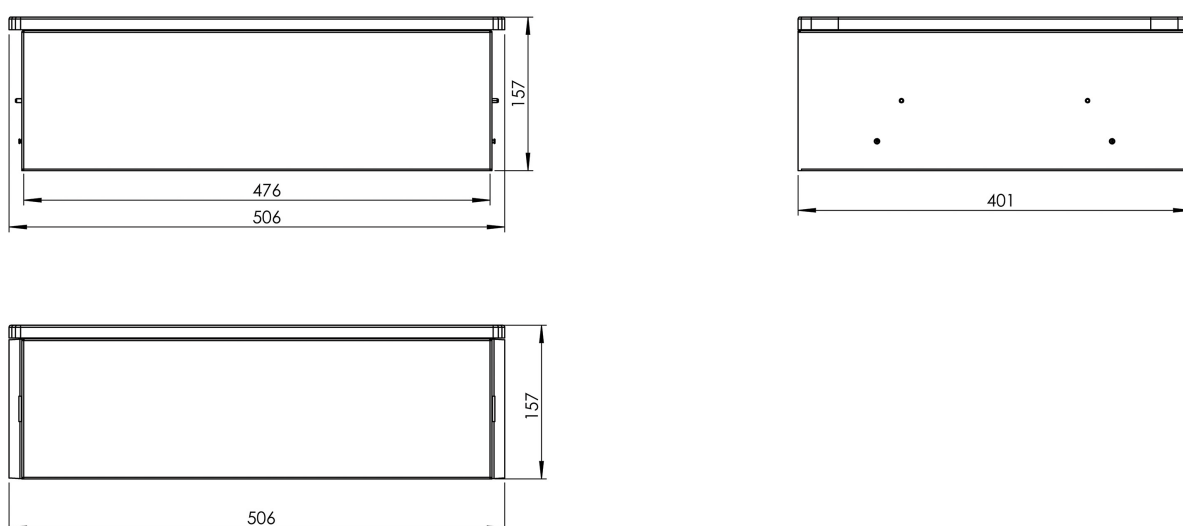


Image 4. Dimensions — Parallel Box

## 3.4. Technical Data — FENECON Parallel Box (optional)

### 3.4.2. Parallel Box — Terminal Assignment

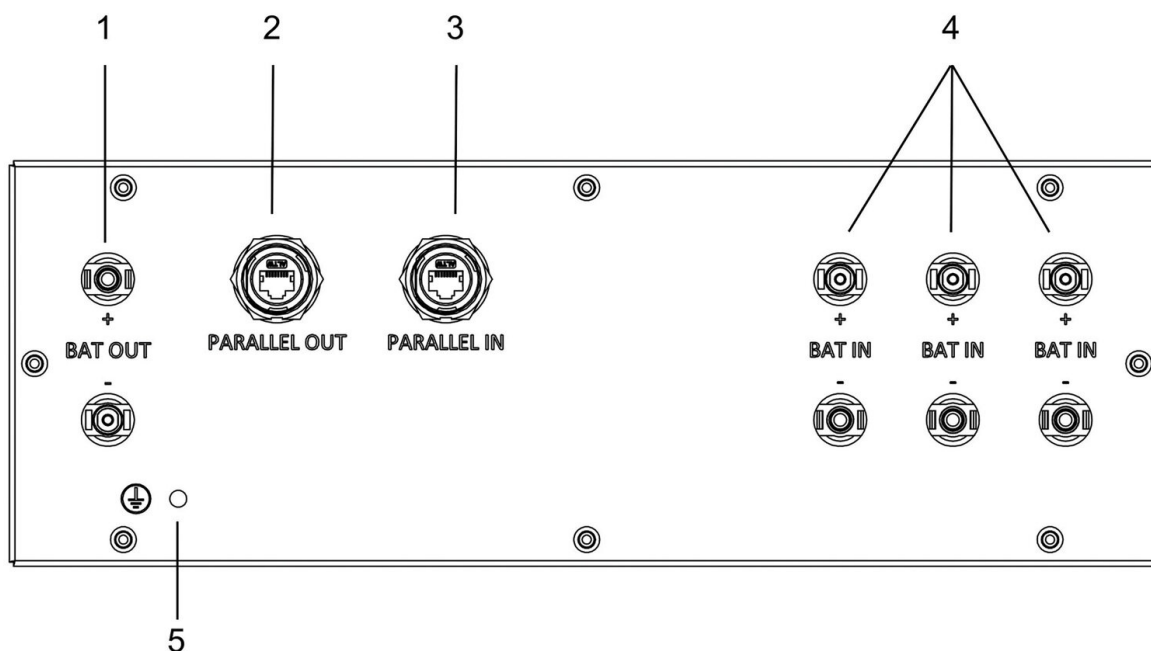


Image 5. Terminal Assignment — Parallel Box

| List item | Description                                                             |
|-----------|-------------------------------------------------------------------------|
| 1         | Battery connection to the inverter (MC4-Evo stor)                       |
| 2         | Communication output for connecting multiple battery towers in parallel |
| 3         | Communication input for connecting multiple battery towers in parallel  |
| 4         | Battery connection for additional battery towers (MC4-Evo stor)         |
| 5         | Earthing connection                                                     |

Table 12. Terminal Assignment — Parallel Box

### 3.5. Technical Data — Extension Box

| Description            | Value/Dimension        |
|------------------------|------------------------|
| DC operating voltage   | 224 V to 672 V         |
| Max. Current (Battery) | 50 A                   |
| Operating Temperature  | -10 °C to 50 °C        |
| Ingress Protection     | IP55 (when plugged in) |
| Width   Depth   Height | 506   401   157 mm     |
| Weight                 | 9 kg                   |
| Installation           | stackable              |

Table 13. Extension Box — Technical Data

### 3.5.1. Dimensions

The dimensions are given in mm.

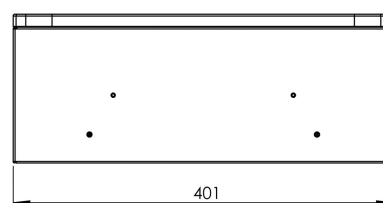
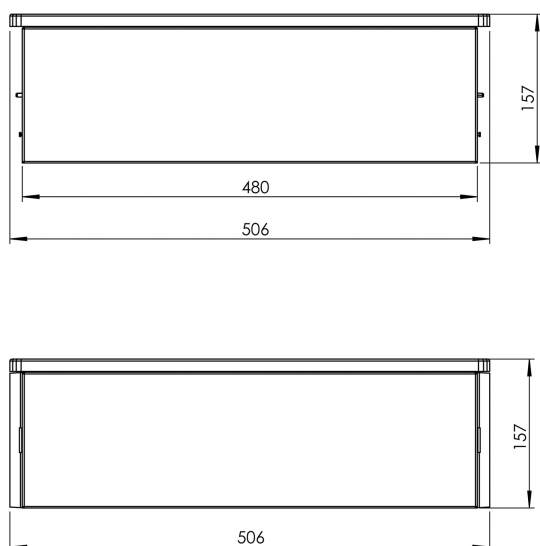


Image 6. Dimensions — Extension Box

## 3.5. Technical Data — Extension Box

### 3.5.2. Extension Box — Terminal Assignment

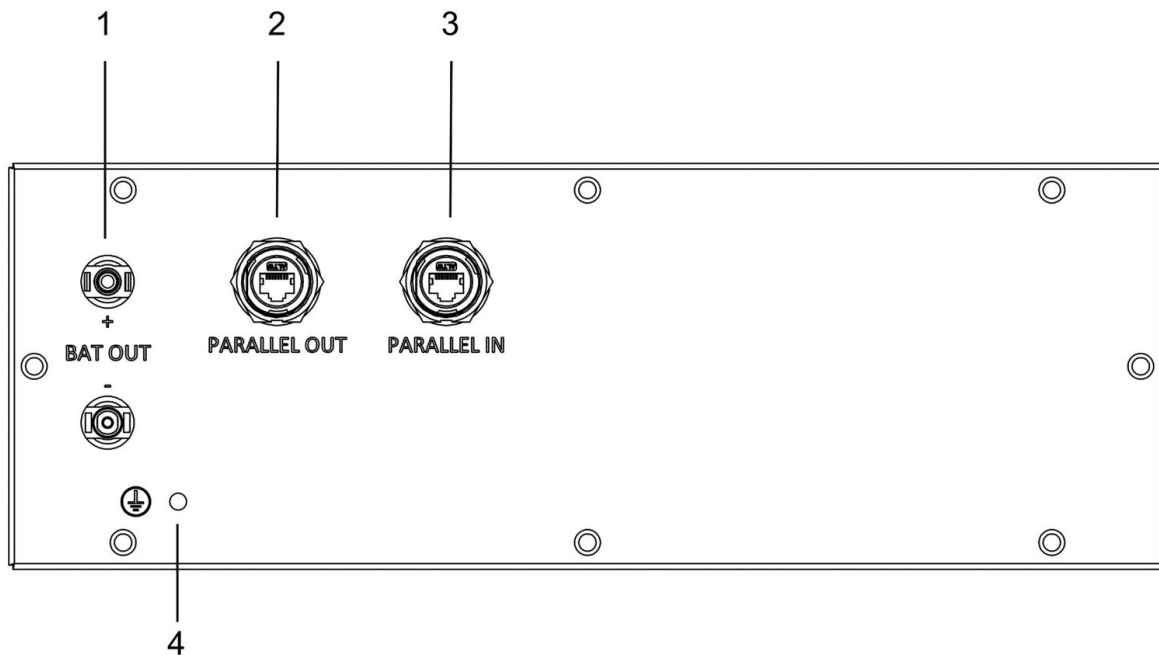


Image 7. Terminal Assignment — Extension Box

| List item | Description                                                             |
|-----------|-------------------------------------------------------------------------|
| 1         | Battery connection to the FEMS box in parallel (MC4-Evo stor)           |
| 2         | Communication output for connecting multiple battery towers in parallel |
| 3         | Communication input for connecting multiple battery towers in parallel  |
| 4         | Earthing connection                                                     |

Table 14. Terminal Assignment — Extension Box

3.6. Technical Data — BMS box

| Description                               | Value/Dimension        |
|-------------------------------------------|------------------------|
| Maximum operating voltage range           | 224 V to 672 V         |
| Maximum output/input current              | 50 A                   |
| Optimal operating temperature             | 15 to 30 °C            |
| Operating temperature range               | -20 to 55 °C           |
| Protection specification                  | IP55 (when plugged in) |
| Width (incl. side panel)   Depth   Height | 506   401   143 mm     |
| Weight                                    | 13 kg                  |
| Installation                              | stackable/wall-mounted |

Table 15. Technical Data — BMS box

3.6.1. Dimensions

The dimensions are given in mm.

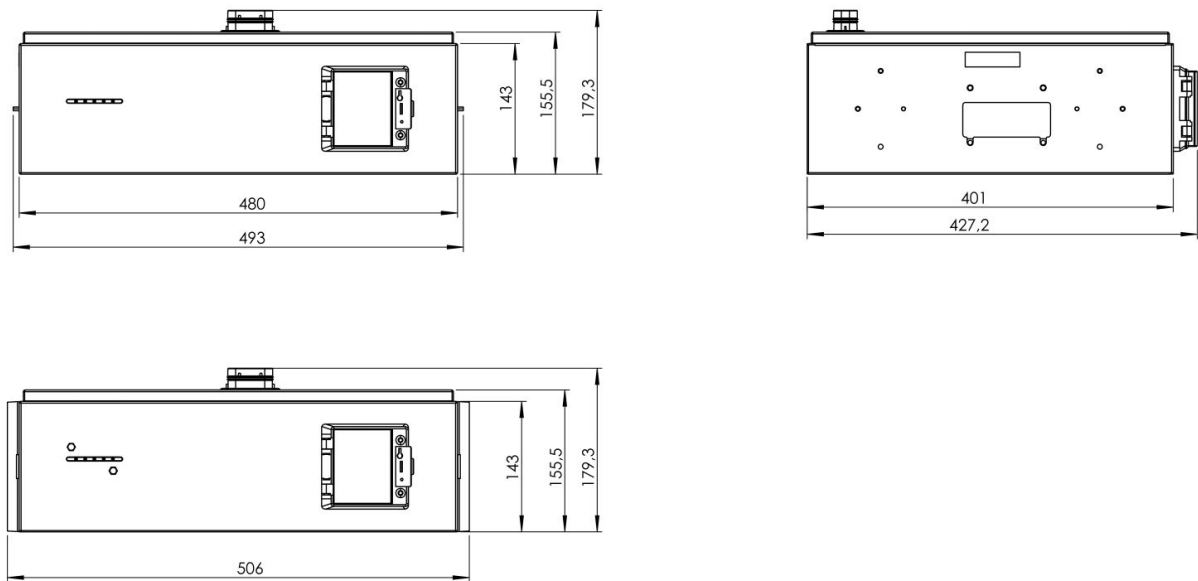


Image 8. Dimensions — BMS box

### 3.7. Technical data — FENECON battery module

### 3.7. Technical data — FENECON battery module

| Designation                                           | Value/dimension              |
|-------------------------------------------------------|------------------------------|
| Usable capacity                                       | 62.4 Ah/2.80 kWh             |
| Rated voltage                                         | 44.8 V                       |
| Output voltage range                                  | 39.2 V to 50.4 V             |
| Battery operating temperature range                   | -20 °C to +55 °C             |
| Storage temperature range (over 7 days)               | -30 °C to +60 °C             |
| Storage temperature range (over 30 days)              | -20 °C to +55 °C             |
| Storage temperature range (cumulative up to 270 days) | -10 °C to +45 °C             |
| Protection specification                              | IP55 (plugged in)            |
| Weight                                                | 30 kg                        |
| Installation                                          | stackable                    |
| Parallel connection                                   | 4 battery towers in parallel |
| Cooling                                               | natural cooling              |
| Shipping capacity                                     | < 30 % SoC                   |
| Module safety certification                           | VDE 2510/IEC62619            |
| UN transport test standard                            | UN38.3                       |
| Relative humidity during storage                      | 5 % to 95 %                  |

Table 16. Technical data — Battery module



#### NOTICE

##### Storage longer than 12 months

Possible consequences: Deep discharge of the cells, defect of the battery module.

- External charging of the battery modules to rated voltage. This must be performed by the manufacturer or a company authorized by the manufacturer.

3.7.1. Dimensions

The dimensions are given in mm.

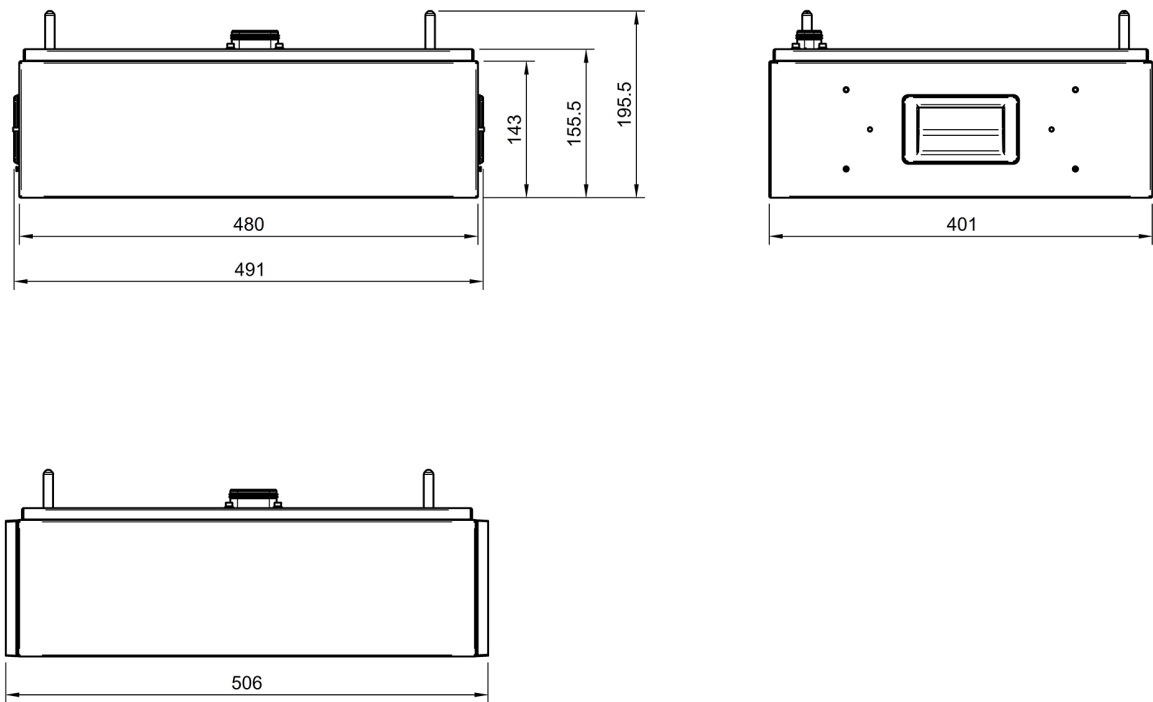


Image 9. Dimensions — Battery module

### 3.7. Technical data — FENECON battery module

#### 3.7.2. Electrical parameters of the battery modules

For amounts of battery modules from 3 to 6

| Parameter                                           | Value/dimension  |                  |           |                  |
|-----------------------------------------------------|------------------|------------------|-----------|------------------|
| No. of modules                                      | 3S               | 4S               | 5S        | 6S               |
| Nominal capacity in kWh                             | 8.6              | 11.4             | 14.3      | 17.2             |
| Usable capacity in kWh                              | 8.4              | 11.2             | 14.0      | 16.8             |
| Width incl. side panel in mm                        | 506              |                  |           |                  |
| Depth in mm                                         | 401              |                  |           |                  |
| Height in mm                                        | 834              | 977              | 1120      | 1263             |
| Weight in kg                                        | 127              | 157              | 187       | 217              |
| Nominal voltage in V                                | 134.4            | 179.2            | 224.0     | 268.8            |
| Output voltage range in V                           | 117.6 ~<br>151.2 | 156.8 ~<br>201.6 | 196 ~ 252 | 235.2 ~<br>302.4 |
| Maximum continuous charging/discharging power in kW |                  |                  |           |                  |
| Inverter with 6 kW                                  | 4.03             | 5.38             | 6.00      | 6.00             |
| Inverter with 10 kW                                 | 5.38             | 7.17             | 8.96      | 10.00            |
| Inverter with 15 kW                                 | 5.38             | 7.17             | 8.96      | 10.75            |

Table 17. Electrical parameters — Amount of battery modules 3S to 6S (3 to 6 modules in series)

For battery modules 8 to 11

| Parameter                                           | Value/dimension  |                  |                  |                  |
|-----------------------------------------------------|------------------|------------------|------------------|------------------|
| Modules                                             | 8S               | 9S               | 10S              | 11S              |
| Nominal capacity in kWh                             | 22.9             | 25.8             | 28.7             | 31.5             |
| Usable capacity in kWh                              | 22.4             | 25.2             | 28.0             | 30.8             |
| Width incl. side panel in mm                        | 506              |                  |                  |                  |
| Depth in mm                                         | 401              |                  |                  |                  |
| Height in mm                                        | 1549             | 1692             | 1835             | 1978             |
| Weight in kg                                        | 277              | 307              | 337              | 367              |
| Rated voltage in V                                  | 358.4            | 403.2            | 448.0            | 492.8            |
| Output voltage range in V                           | 313.6 ~<br>403.2 | 352.8 ~<br>453.6 | 392.0 ~<br>504.0 | 431.2 ~<br>554.4 |
| Maximum continuous charging/discharging power in kW |                  |                  |                  |                  |
| Inverter with 6 kW                                  | 6.00             | 6.00             | 6.00             | 6.00             |
| Inverter with 10 kW                                 | 10.00            | 10.00            | 10.00            | 10.00            |
| Inverter with 15 kW                                 | 12.54            | 14.34            | 15.00            | 15.00            |

Table 18. Electrical parameters — Number of battery modules 8S to 11S (8 to 11 modules in series)

For battery modules 12 to 14

| Parameter                                           | Value/dimension |               |               |
|-----------------------------------------------------|-----------------|---------------|---------------|
| Modules                                             | 12S             | 13S           | 14S           |
| Nominal capacity in kWh                             | 34.4            | 37.3          | 40.1          |
| Usable capacity in kWh                              | 33.6            | 36.4          | 39.2          |
| Width incl. side panel in mm                        | 506             |               |               |
| Depth in mm                                         | 401             |               |               |
| Height in mm                                        | 2121            | 2264          | 2407          |
| Weight in kg                                        | 397             | 427           | 457           |
| Rated voltage in V                                  | 537.6           | 582.4         | 627.2         |
| Output voltage range in V                           | 470.4 ~ 604.8   | 509.6 ~ 655.2 | 548.8 ~ 705.6 |
| Maximum continuous charging/discharging power in kW |                 |               |               |
| Inverter with 6 kW                                  | 6.00            | 6.00          | 6.00          |
| Inverter with 10 kW                                 | 10.00           | 10.00         | 10.00         |
| Inverter with 15 kW                                 | 15.00           | 15.00         | 15.00         |

Table 19. Electrical parameters — Amount of battery modules 12S to 14S (12 to 14 modules in series)



The specified capacity values refer to one battery tower and are rounded to one decimal place.

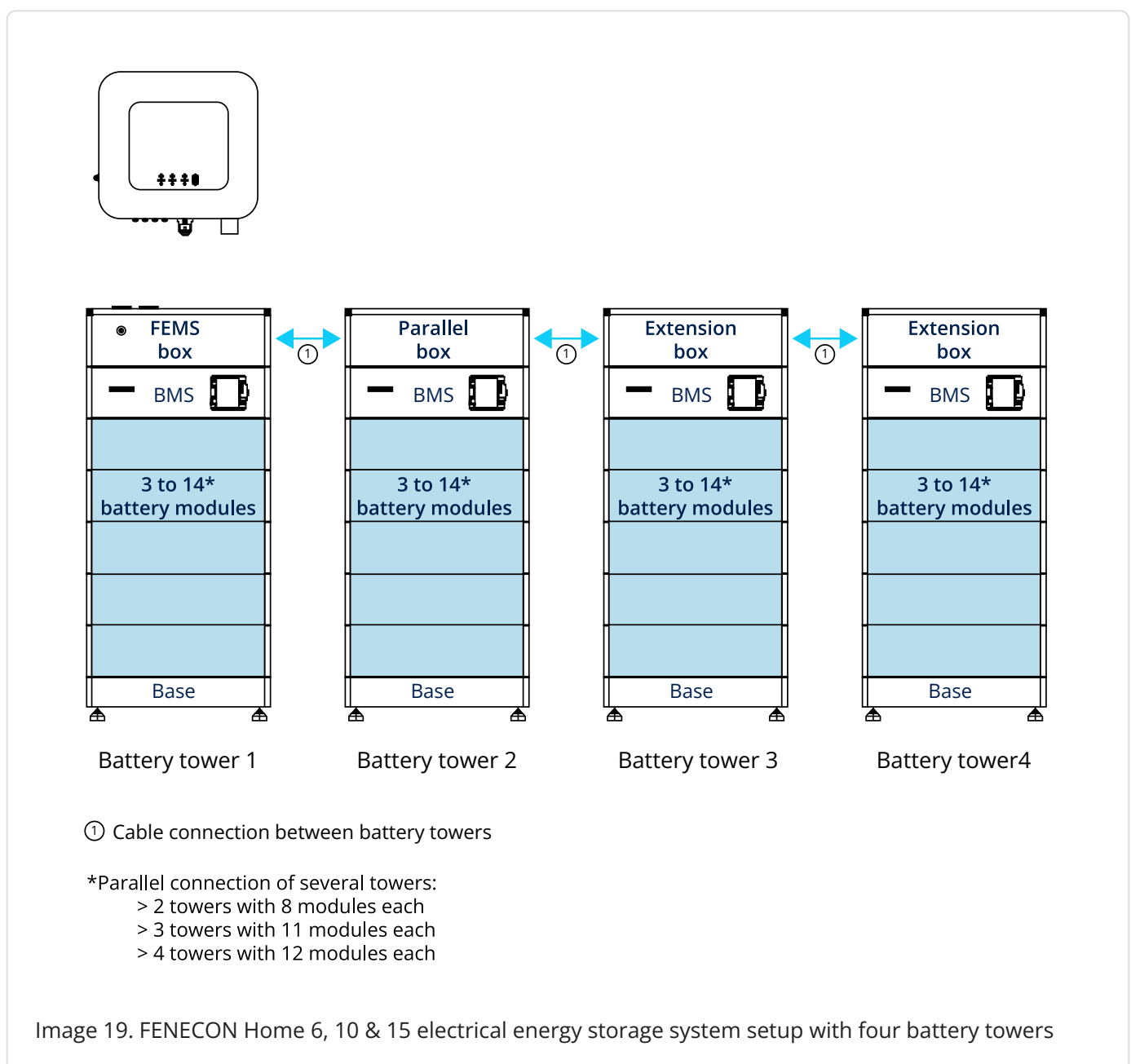
## 4.2. System structure: Variants with emergency power

### 4.2.6. Required components

Depending on the system configuration, a maximum of the following components is required. When connecting up to four battery towers in parallel, ensure that the same number of battery modules is installed in each battery tower.

| Amount of battery towers | Amount of battery modules max. | BMS box (per tower) | EMS Box | Parallel Box | Extension Box |
|--------------------------|--------------------------------|---------------------|---------|--------------|---------------|
| 1                        | 14                             | 1                   | 1       | -            | -             |
| 2                        | 28                             | 1                   | 1       | 1            | -             |
| 3                        | 42                             | 1                   | 1       | 1            | 1             |
| 4                        | 56                             | 1                   | 1       | 1            | 2             |

Table 28. System configuration — Required components



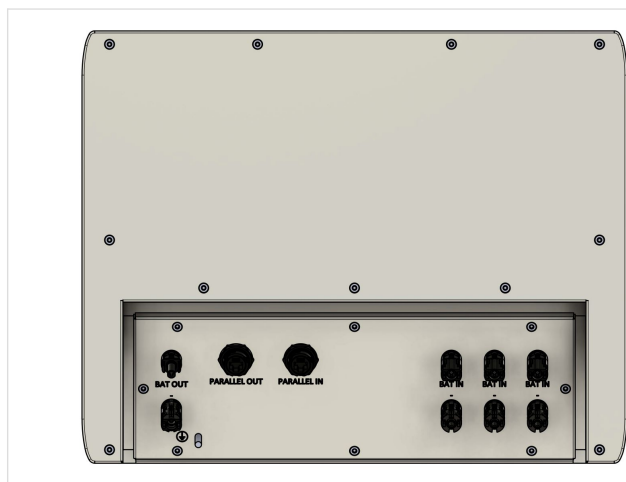
## 7. Parallel connection of several battery towers

## 7. Parallel connection of several battery towers

### 7.1. Assembly of further battery towers

#### 7.1.1. Installation — Battery Tower 2 with FENECON Parallel Box

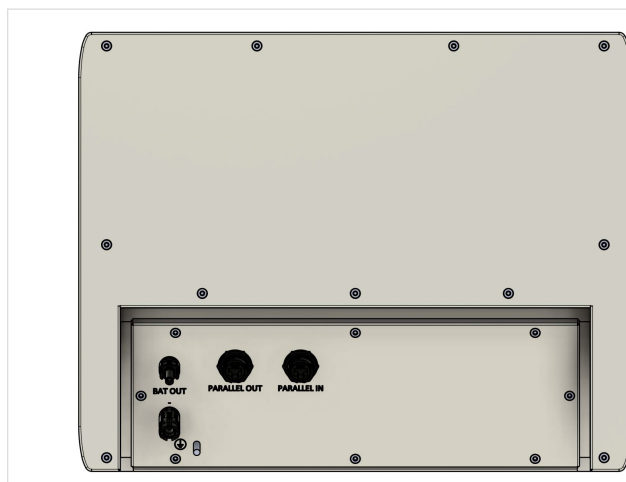
If a second battery tower is available, the Parallel box is plugged onto the second battery tower instead of the EMS box.



To do this, repeat the steps from the section [\[Installation of Battery Tower 1 with FEMS Box\]](#). In step 8, connect the FENECON Parallel Box instead of the FEMS Box.

#### 7.1.2. Installation — Battery towers 3 through 4 with FENECON Extension Box

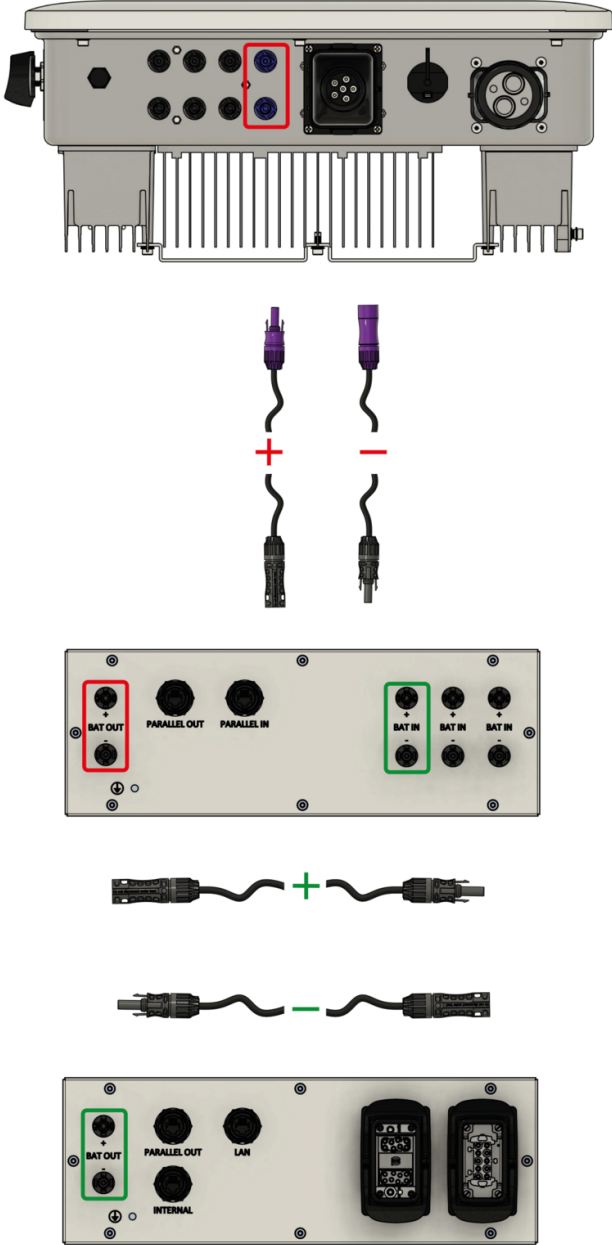
If there is a third to fourth battery tower, an Extension box is attached to the third to fourth battery tower instead of the EMS box.



To do this, repeat the steps from the section [\[Installation of Battery Tower 1 with the FEMS Box\]](#). In step 8, connect the FENECON Extension Box instead of the FEMS Box.

## 7.2. Electrical installation of additional battery towers

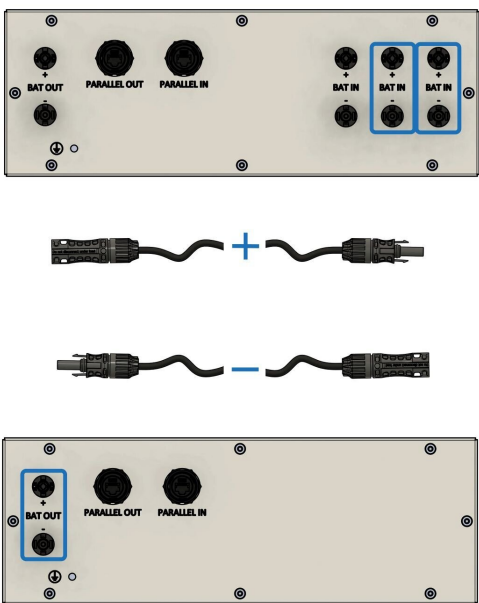
### 7.2.1. DC cable between two battery towers and the Inverter



1. Use the enclosed DC cable (3 m) for the t-shaped connector from the second battery tower with the plugged-on Parallel Box to the inverter.
2. If the length of the DC battery cables is not sufficient, one of the enclosed sets of DC cables (2 m) can be used to extend them.
3. Connect the cables to the second battery tower (Parallel Box) (BAT OUT) and the inverter (BAT). (red)
4. Connect plus (+) to plus (+) and minus (-) to minus (-).
5. The two battery towers are connected to each other using the second set of cables supplied in the Parallel box.
6. To do this, connect the two cables to the first battery (EMS box) (BAT OUT) and to the second battery (Parallel box) (BAT IN) (green).

## 7.2. Electrical installation of additional battery towers

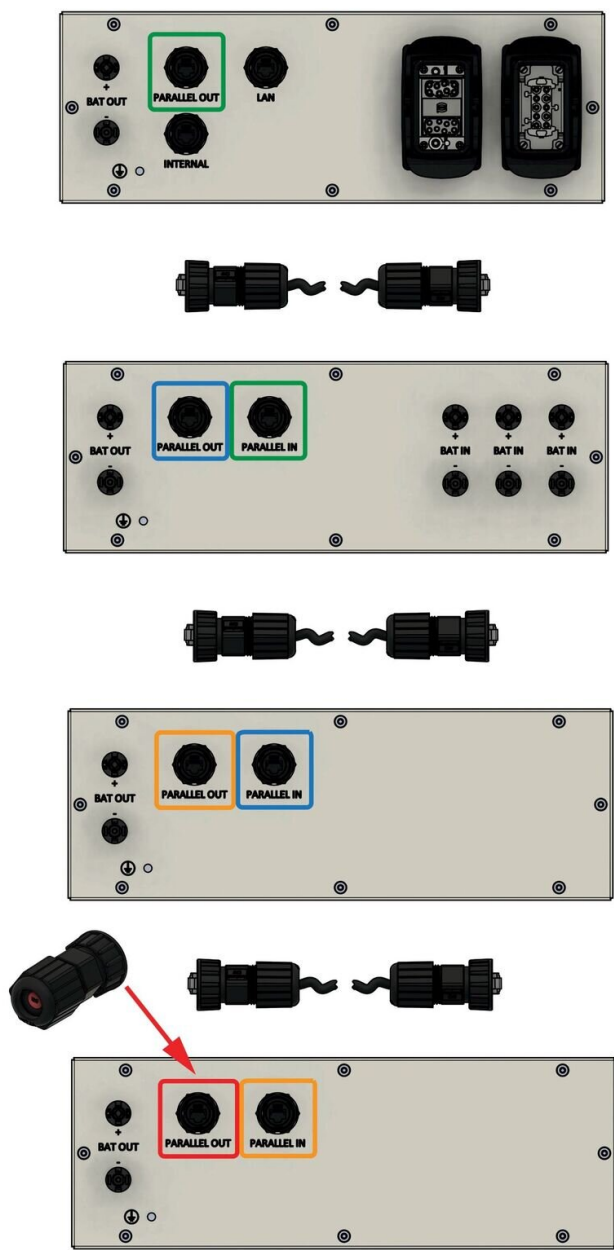
### 7.2.2. DC cable between the third to fourth battery tower and Parallel box



1. The third and fourth battery towers are connected to the Parallel Box. Depending on the distance, a 2-meter cable set is sufficient, if not, the two enclosed cable sets can be connected and thus extended to 4 m.
2. To do this, connect the two cables between the Extension box (BAT OUT) and the parallel switch box (BAT IN).

## 7.3. Communication of further battery towers

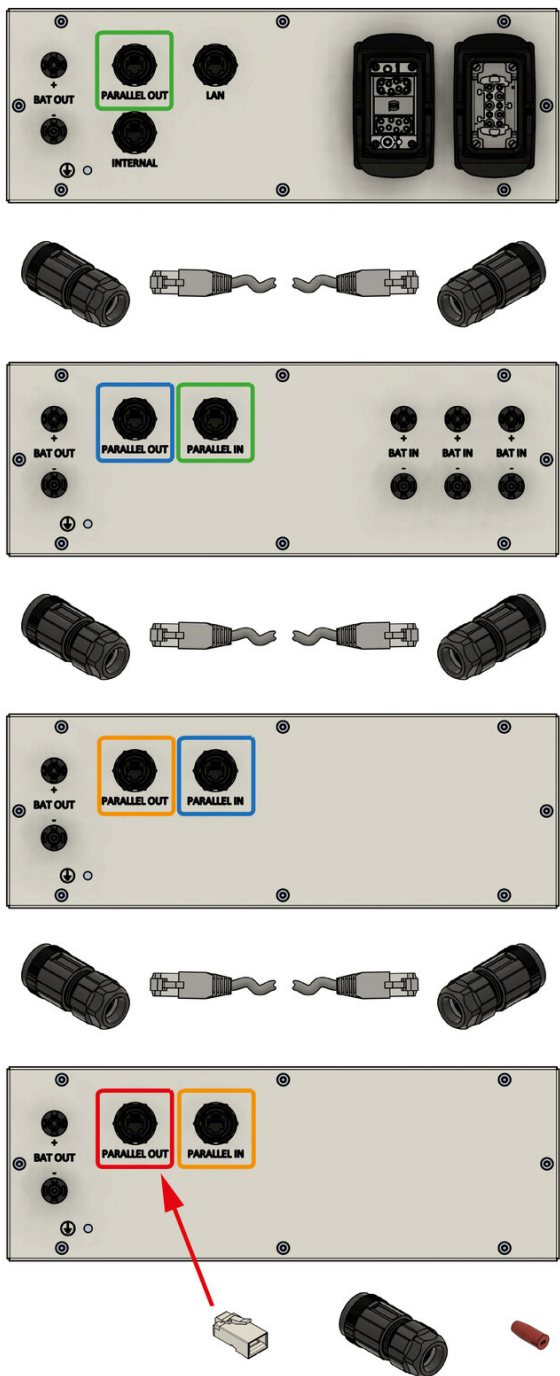
### 7.3.1. Communication between two to four battery towers — Variant 1



1. If several battery towers are operated in parallel, the network cable supplied with the Parallel box and Extension box must be used between the towers (green).
2. The network cable must be plugged in and locked between the EMS box (PARALLEL OUT) and the Parallel box (PARALLEL IN).
3. Likewise on all other towers, always between PARALLEL OUT and PARALLEL IN (blue/orange).
4. At the last tower, plug the jumper plug into PARALLEL OUT (red).

### 7.3.2. Communication between two to four battery towers — Variant 2

### 7.3. Communication of further battery towers



1. If several battery towers are operated in parallel, the network cable supplied with the Parallel box and Extension box must be used between the towers (green).
2. The network cable must be plugged in and locked between the EMS box (PARALLEL OUT) and the Parallel box (PARALLEL IN).
3. Likewise on all other towers, always between PARALLEL OUT and PARALLEL IN (blue/orange).
4. At the last tower, plug the jumper plug into PARALLEL OUT (red).