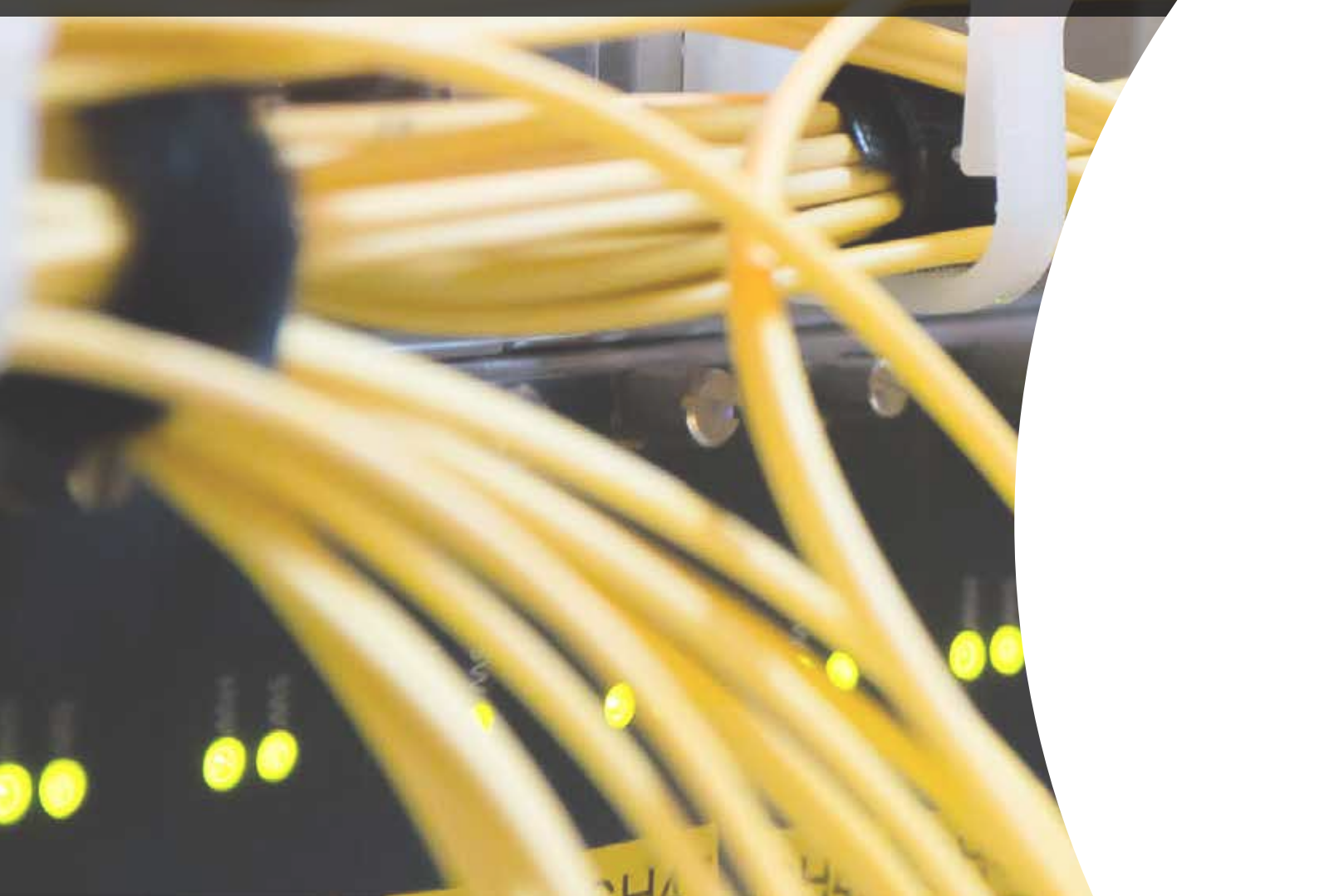


# HIGH AND LOW VOLTAGE LITHIUM BATTERIES





[www.energyspa.com](http://www.energyspa.com)

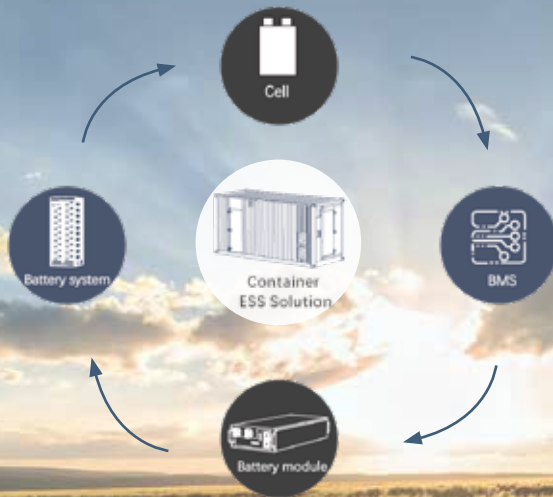


# Index

|  |       |
|--|-------|
| Pylontech Batteries Introduction ..... | p. 4  |
| Low Voltage .....                      | p. 6  |
| US3000C and US5000 .....               | p. 6  |
| B4850 .....                            | p. 8  |
| Force L1 .....                         | p. 10 |
| Force L2 .....                         | p. 12 |
| LV-HUB-A .....                         | p. 14 |
| High Voltage .....                     | p. 16 |
| H48050 and H48074 .....                | p. 16 |
| H32148-C .....                         | p. 18 |
| Force H1 .....                         | p. 20 |
| Force H2 .....                         | p. 22 |
| BMS .....                              | p. 24 |
| Product Codes .....                    | p. 25 |
| Accessory Codes .....                  | p. 26 |

# Pylontech Lithium Iron Phosphate Batteries

With over 3 GWh installed and 250,000 residential ESS installed, Pylontech ranks third among the leading suppliers of LiFePO4 battery storage systems worldwide.



The company vertically integrates all the necessary technologies including cathode material, lithium cell, BMS (Battery Management System) and system integration.

Pylontech produces **low voltage** batteries (mainly used in residential areas) and **high voltage** batteries (used in the residential, commercial and industrial sectors).

## Low Voltage Models

Dedicated to residential-sized systems, the low voltage batteries have a storage capacity of 2.4, 3.55 and 4.8 kWh, and with their modularity it is possible to have storage systems from 4.8 to 30 kWh.

The family of low voltage batteries is divided into the **US-C** and **UP** series in “rackable” format, that are inserted in special technical cabinets of various sizes depending on the need. Second is the **FL** series in “stackable” format that is stackable one above the other.



## High Voltage Models

The high voltage batteries have a capacity of 2.4 and 3.55 kWh and connected in series can reach from 4.8 kWh up to over 2 MWh of storage.

The family of high voltage batteries is divided into the **H** series in “rackable” format, and in the **FH** in “stackable” format.



Energy manages distribution and assistance for Pylontech.





# US3000C and US5000

## Low voltage lithium batteries

**US3000C - 3,55 kWh Modules**

**US5000 - 4,8 kWh Modules**

### Features:

- The internal **molecular structure** of LiFePO4 batteries is **more stable** and **safe (Cobalt free)**;
- Double active protection at BMS level;
- 95% **depth of discharge** (DOD), available for inverters aligned with the latest Pylontech protocol;
- **10 year guarantee.**



*Pylontech Brand*

### DIMENSIONS:

#### US3000C

Height: 132 mm  
Width: 442 mm  
Depth: 410 mm  
Weight: 32 kg

#### US5000

Height: 161 mm  
Width: 442 mm  
Depth: 420 mm  
Weight: 39.7 kg



## Technical data

### Lithium Battery

| MODEL                              | US3000C   | US5000   |
|------------------------------------|---|--|
| Items Code                         | 90040082  | 90040084   |
| <b>ELECTRICAL DATA</b>             |   |  |
| Cell technology                    | Li-ion (LFP)  |  |
| Nominal voltage [V]                | 48  |  |
| Nominal capacity [kWh/Ah]          | 3,552 / 74  | 4,8 / 100  |
| Depth of discharge DOD [%]         | 95  |  |
| Usable capacity [kWh/Ah]           | 3,37/70,2   | 4,56 / 95  |
| Recommend charge current [A]       | 37  | 80*  |
| Charge voltage [V]                 | 52,5 ~ 53,5   | 52,5 ~ 53,5  |
| Discharge voltage [V]              | 44,5 ~ 53,5   | 43,5 ~ 53,5  |
| <b>BUS</b>                         |   |  |
| Communication Bus                  | RS232, RS485, CAN   | RS485, CAN   |
| Communication protocol             | YD/T 1363.3-2005  | -  |
| <b>DIMENSIONS AND WEIGHT</b>       |   |  |
| Width [mm]                         | 442   | 442  |
| Height [mm]                        | 132 (3U)  | 161 (4U)   |
| Depth [mm]                         | 420   | 420  |
| Weight [kg]                        | 32  | 39,7   |
| <b>GENERAL DATA</b>                |   |  |
| Charge working temperature [°C]    | 0 ~ 50  |  |
| Discharge working temperature [°C] | -10 ~ 50  |  |
| Storage temperature [°C]           | -20 ~ 60  | -20 ~ 45   |
| Protection class                   | IP20  |  |
| Operation life at 25 °C [year]     | 15+   |  |
| Life cycles                        | >6000 25°C  |  |
| Transport certificate              | UN38.3, UN 3090   | UN38.3, UN 3480  |
| Certifications and regulations     | IEC62619, IEC63056, IEC62040, IEC62477-1, UL1973, U1642, UL9540A, VDE2510-50, IEC61000-6-2, IEC61000-6-3, GR-1089, GB/T 2423, TÜV, CE, UL | IEC62619, IEC63056, UL1973, UL9540A, IEC61000-6-2, IEC61000-6-3, GR-1089, GB/T 2423, TÜV, CE, UL |

\*: The recommended and max. continuous operation current is for a battery cell temperature within 10 ~ 40°C to consider, out of such temperature range will cause derating on operation current.



Scan to view the assembly  
video of the US3000C  
batteries



# B4850

## Low voltage lithium batteries

### B4850 - 2.4 kWh Modules

#### Features:

- High safety LFP with cell level monitoring and balancing;
- Wide working temperature;
- **Modular design and easy to install;**
- Possibility to connect multiple battery modules in parallel, up to 40 units, to expand capacity and power;
- Can be used in both off-grid and hybrid setups;
- **10 years warranty.**



Dyness brand

#### DIMENSIONS:

Height: 90 mm  
Width: 480 mm  
Depth: 360 mm  
Weight: 22 kg





## Technical data

### Lithium Battery

| MODEL                                    | B4850  |
|--|--|
| Items Code                               | 90040500   |
| <b>ELECTRICAL DATA</b>                   |  |
| Cell technology                          | LiFePO4  |
| Nominal voltage [V]                      | 48   |
| Nominal capacity [kWh/Ah]                | 2.4/ 50  |
| Depth of discharge DoD [%]               | 90   |
| Usable capacity [kWh/Ah]                 | 2.16/45  |
| Recommend C-Rate [C]                     | 0.5  |
| Recommended charge/discharge current [A] | 25   |
| Max. power charge/discharge current [A]  | 50   |
| Peak power charge/discharge current [A]  | 55 (1s)  |
| Charging cut-off vol. [V]                | 54   |
| Discharging end-of vol. [V]              | 42   |
| <b>BUS</b>                               |  |
| Communication Bus                        | CAN, RS485   |
| <b>DIMENSIONS AND WEIGHT</b>             |  |
| Width [mm]                               | 480  |
| Height [mm]                              | 90   |
| Depth [mm]                               | 360  |
| Weight [kg]                              | 22   |
| <b>GENERAL DATA</b>                      |  |
| Charge working temperature [°C]          | 0 ~ 50   |
| Discharge working temperature [°C]       | -20 ~ 50   |
| Protection degree                        | IP20   |
| Operation life [years]                   | 15+  |
| Life cycles                              | >6000  |
| Scalability                              | Up to 40 units in parallel   |
| Compatible inverters                     | Victron, SMA, Goodwe, Imeon, Solis, zeroCO <sub>2</sub> , SAJ, Growatt, Luxpower, Voltronic, Deye ecc. |
| Certification                            | TÜV, CE, UN38.3, UL1973, CEI-021   |
| EMC Standard                             | EN62619, IEC62040, Accreditato CEC   |

# Force L1

## Low voltage lithium batteries

### Force L1 - 3.55 kWh Modules

**Force L1** low voltage Pylontech batteries are particularly suitable for residential applications because they are aesthetically elegant and can be installed quickly without the need to connect cables between the various elements; in fact, to mount these batteries, simply place them one on top of the other.

The basic module is 3.55 kWh, the **depth of discharge** is **95%** and a capacity of **24.85 kWh** can be reached for each **7-module stack**. The stack is completed by the BMS, the upper element of the structure, which controls and regulates the charges and discharges of the system.

10 year warranty included, IP55.

Magnetothermic switch installed.



Stack of Batteries

Pylontech Brand

TOP SAFETY LEVEL:

COMPLIANT WITH STANDARD VDE 2510-50

### DIMENSIONS:

Height: See table

Width: 600 mm

Depth: 380 mm

Weight: from 86.5 to 269 kg



BMS Module



BMS Display



## Stack of Batteries

| MODEL  | Force L1                                       |             |             |             |             |             |
|--|--|-------------|-------------|-------------|-------------|-------------|
| Items Code [battery module]                        | 90040227                                       |             |             |             |             |             |
| Items Code [controller BMS]                        | 90040228                                       |             |             |             |             |             |
| Battery module quantity [pcs]                      | 2  | 3           | 4           | 5           | 6           | 7           |
| Battery system voltage [V]                         | 48   |             |             |             |             |             |
| Battery system capacity [kWh/Ah] 1 stack           | 7.10 / 148                                     | 10.65 / 222 | 14.20 / 296 | 17.76 / 370 | 21.31 / 444 | 24.86 / 518 |
| Battery system charge/disch. current [A, normal]   | 75   |             |             | 100         |             |             |
| Dimension [450x296xH, mm]                          | 530  | 700         | 870         | 1040        | 1210        | 1380        |
| Weight [kg]  | 86.5   | 123         | 159.5       | 196         | 232.5       | 269         |
| Battery system charge voltage [min~max,V]          | 44.5 ~ 53.5                                    |             |             |             |             |             |
| Battery system charge/disch. current [A, standard] | 30   | 45          | 60          | 75          | 90          | 100         |
| Battery system charge/disch. current [A, max.]     | 110@15s  |             |             |             |             |             |
| Battery module name                                | FL48074  |             |             |             |             |             |
| Battery module voltage [V]                         | 48   |             |             |             |             |             |
| Battery module capacity [kWh/Ah]                   | 3.552 / 74                                     |             |             |             |             |             |
| Depth of Discharge [%]                             | 95   |             |             |             |             |             |
| Efficiency [%]                                     | 96   |             |             |             |             |             |
| Battery controller name [BMS]                      | FC0048-100S                                    |             |             |             |             |             |
| Communication bus                                  | RS485\CAN                                      |             |             |             |             |             |
| Operation temperature [°C]                         | 0 ~ 50   |             |             |             |             |             |
| Storage temperature [°C]                           | -20 ~ 60                                       |             |             |             |             |             |
| Altitude [mt]                                      | <2000  |             |             |             |             |             |
| Protection class                                   | IP55   |             |             |             |             |             |
| Operation life [years]                             | 15+  |             |             |             |             |             |
| Operation cycle life                               | 6000   |             |             |             |             |             |
| Transport certificate                              | UN38.3   |             |             |             |             |             |
| Certifications and regulations                     | VDE2510-50, IEC62619 , CE RED, IEC62477-1, CEC |             |             |             |             |             |
| Battery controller dimension [WxHxD]               | 600x150x380                                    |             |             |             |             |             |
| Battery module dimension [WxHxD]                   | 600x170x380                                    |             |             |             |             |             |
| Battery bottom base dimension [WxHxD]              | 600x40x380                                     |             |             |             |             |             |



(\*) Current value used to determine the capacity of the battery during test.



Battery Module



Scan to view the assembly video

## Battery Module

| MODEL                            | FL48074      |
|----------------------------------|--------------|
| Cell technology                  | Li-ion (LFP) |
| Battery module voltage [V]       | 48           |
| Battery module capacity [kWh/Ah] | 3.552 / 74   |
| Battery type                     | 2p 15 s      |
| Dimension [WxHxD, mm]            | 600x170x380  |
| Weight [kg]                      | 36.5         |
| Battery cell voltage [V]         | 3.2          |
| Battery cell capacity [Wh/Ah]    | 118.4 / 37   |
| Operation temperature [°C]       | 0 ~ 50       |
| Storage temperature [°C]         | -20 ~ 60     |
| Operation life [years]           | 15+          |
| Operation cycle life             | 6000         |
| Transport certificate            | UN38.3       |



# Force L2

## Low voltage lithium batteries

### Force L2 - Moduli da 3,55 kWh

**Force L2** low voltage Pylontech batteries are particularly suitable for residential applications because they are aesthetically elegant and can be installed quickly, even in small spaces, without the need to connect cables between the various elements; in fact, to mount these batteries, simply place them one on top of the other.

The basic module is 3.55 kWh, the **depth of discharge** is **95%** and a capacity of **14.20 kWh** can be reached for each **4-module stack**. The battery is completed by the BMS, the upper element of the structure, which controls and regulates the charges and discharges of the system. **Up to 6 stacks** can be mounted **in parallel** in the same system.

10 year warranty included, IP55.

Magnetothermic switch installed.



Stack of Batteries

Pylontech Brand

TOP SAFETY LEVEL:

COMPLIANT WITH STANDARD VDE 2510-50



BMS Module



BMS Display

### DIMENSIONS:

Height: See table

Width: 450 mm

Depth: 296 mm

Weight: from 82 to 153 kg



## Stack of Batteries

| MODEL   | Force L2                                      |             |             |
|---|---|-------------|-------------|
| Items Code [battery module]                           | 90040225                                      |             |             |
| Items Code [controller BMS]                           | 90040226                                      |             |             |
| Battery module quantity [pcs]                         | 2   | 3           | 4           |
| Battery system voltage [V]                            | 48  |             |             |
| Battery system capacity [kWh/Ah] 1 stack              | 7.10 / 148                                    | 10.65 / 222 | 14.20 / 296 |
| Battery system charge/discharge current [A, normal]   | 75  | 100         |             |
| Dimension [450x296xH, mm]                             | 822   | 1120        | 1415        |
| Weight [kg]   | 82  | 117.5       | 153         |
| Battery system charge voltage [min~max,V]             | 44.5 ~ 53.5                                   |             |             |
| Battery system charge/discharge current [A, standard] | 30  | 45          | 60          |
| Battery system charge/discharge current [A, max.]     | 110@15s                                       |             |             |
| Battery module name                                   | FL4874M                                       |             |             |
| Battery module voltage [V]                            | 48  |             |             |
| Battery module capacity [kWh/Ah]                      | 3.552 / 74                                    |             |             |
| Depth of Discharge [%]                                | 95  |             |             |
| Efficiency [%]  | 96  |             |             |
| Battery controller name [BMS]                         | FC0048M-100S                                  |             |             |
| Communication bus                                     | RS485\CAN                                     |             |             |
| Operation temperature [°C]                            | 0 ~ 50  |             |             |
| Storage temperature [°C]                              | -20 ~ 60                                      |             |             |
| Altitude [mt]   | <2000   |             |             |
| Protection class                                      | IP55  |             |             |
| Operation life [years]                                | 15+   |             |             |
| Operation cycle life                                  | 6000  |             |             |
| Transport certificate                                 | UN38.3  |             |             |
| Certifications and regulations                        | VDE2510-50, IEC62619, CE RED, IEC62477-1, CEC |             |             |
| Battery controller dimension [WxHxD, mm]              | 450x190x296                                   |             |             |
| Battery module dimension [WxHxD, mm]                  | 450x296x296                                   |             |             |
| Battery bottom base dimension [WxHxD, mm]             | 450x40x296                                    |             |             |



(\*) Current value used to determine the capacity of the battery during test.



Battery Module



Scan to view the assembly video

## Battery Module

| MODEL                            | FL4874M      |
|----------------------------------|--------------|
| Cell technology                  | Li-ion (LFP) |
| Battery module voltage [V]       | 48           |
| Battery module capacity [kWh/Ah] | 3.552 / 74   |
| Battery Type                     | 2p 15 s      |
| Dimension [WxHxD, mm]            | 450x296x296  |
| Weight [kg]                      | 35.5         |
| Battery cell voltage [V]         | 3.2          |
| Battery cell capacity [Wh/Ah]    | 118.4 / 37   |
| Operation temperature [°C]       | 0 ~ 50       |
| Storage temperature [°C]         | -20 ~ 60     |
| Operation life [years]           | 15+          |
| Operation cycle life             | 6000         |
| Transport certificate            | UN38.3       |



# LV-HUB-A

## Communication Hub

**LV-Hub** is a device that allows communication between battery stacks in parallel. The available communication protocol is CAN or RS485.

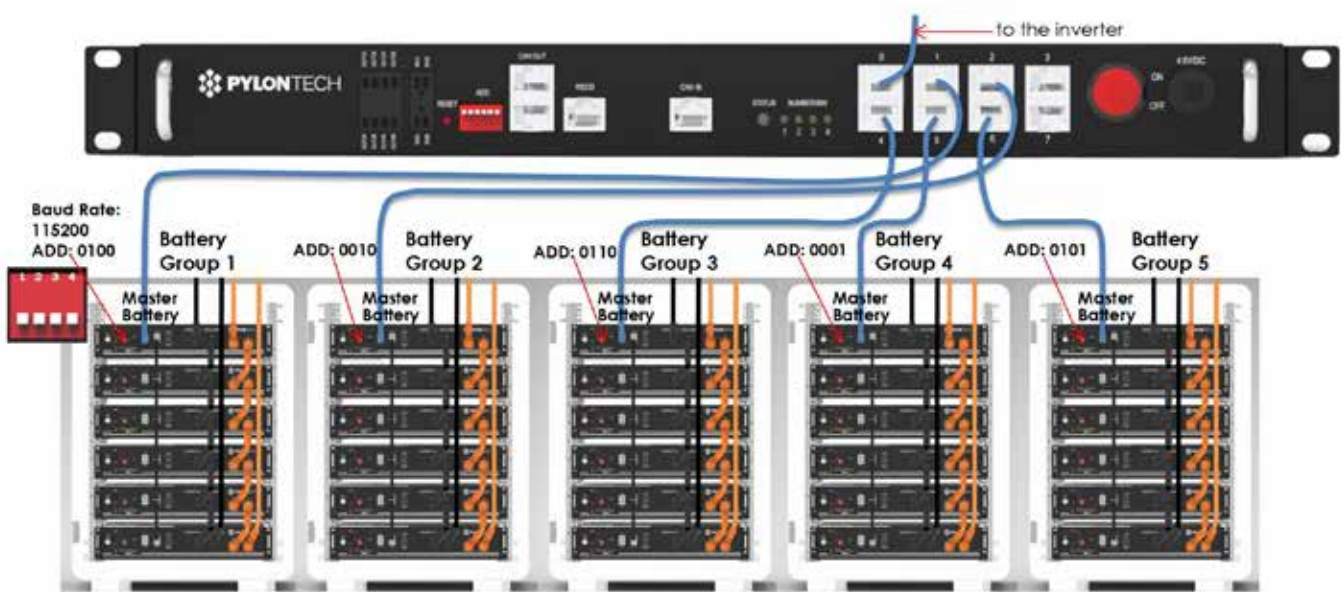
Each LV-Hub can connect up to a maximum of 5 strings of batteries.

Each battery string can include a maximum of 16 units for the US2000C, US3000C and US5000.

There are also possible configurations that use a master LV-Hub and 5 slave LV-Hubs which therefore allow you to control up to a maximum of 400 battery modules using the CAN communication protocol.



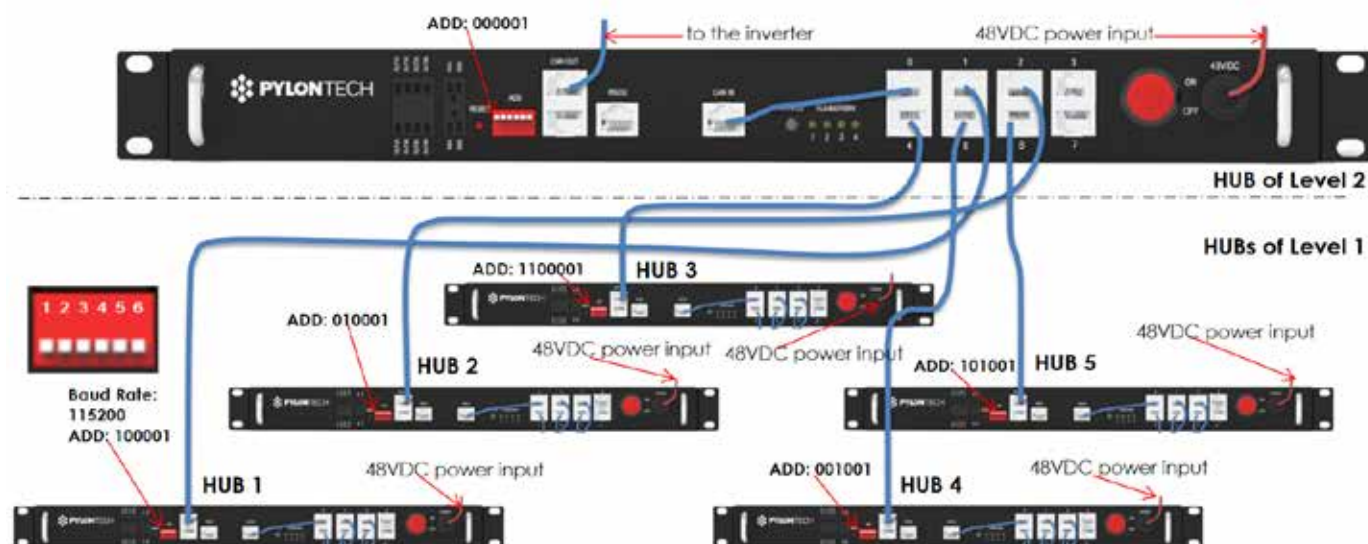
*Pylontech Brand*





## Technical data

| MODEL                       | LV-HUB-A                                     |
|-----------------------------|--|
| Items Code                  | 90040214                                     |
| <b>ELECTRICAL DATA</b>      |  |
| Cell Technology             | Li-ion (LFP)                                 |
| Operating voltage range [V] | 48   |
| Communication interface     | RS485\CAN                                    |
| Systemconsumption [W]       | 2W   |
| Dimensions [WxHxD, mm]      | 442x44x150                                   |
| Weight [kg]                 | 3  |
| Operation life              | 15   |
| Working temperature [°C]    | -20 ~ 60                                     |
| Storage temperature [°C]    | -40 ~ 80                                     |
| Protection Class            | IP20   |
| CAN [Max 5 groups]          | Baud rate: 500K; terminal resistance: 0/120Ω |
| RS485 [Max 5 groups]        | Baud rate: 9600/115200                       |
| Transport certificate       | UN38.3                                       |
| Transfer certificate        | TÜV, IEC62619                                |



# H48050 e H48074

## High voltage lithium battery

### H48050 - 2.4 kWh Modules

### H48074 - 3.55 kWh Modules

#### Features:

- The internal **molecular structure** of LiFePO4 batteries is **more stable** and **safe (Cobalt free)**;
- **Longer Life cycle**, which exceeds 5000 cycles, corresponding to about 11 years of work, with an end-of-life capacity of 80%;
- **Advanced BMS**, which allows you to report alarms in real time;
- **Depth of discharge** up to 95%;
- **Ease of expansion**, to obtain storage of important dimensions;
- **10 years warranty**.



*Pylontech Brand*

#### DIMENSIONS:

##### H48050

Height: 100 mm  
Width: 442 mm  
Depth: 390 mm  
Weight: 24 kg

##### H48074

Height: 132 mm  
Width: 442 mm  
Depth: 390 mm  
Weight: 32 kg



## Technical data Lithium Battery

| MODEL  | H48050  | H48074   |
|--|---|--|
| Items Code                                   | 90040200  | 90040201   |
| <b>ELECTRICAL DATA</b>                       |   |  |
| Cell technology                              | Li-ion (LFP)  |  |
| Nominal voltage [V] (single module)          | 48  |  |
| Nominal capacity [kWh/Ah] (single module)    | 2.4 / 50  | 3.552 / 74                                       |
| Depth of discharge DoD [%]                   | 95  |  |
| Current [A]                                  | 25 (nominal) - 50 (max)                               | 37 (nominal) - 74 (max)                          |
| Charge voltage [V, min.-max.]                | 43.5 ~ 54   |  |
| <b>BUS</b>                                   |   |  |
| Communication Bus                            | RS232, CAN  | RS485, CAN                                       |
| Communication protocol                       | YD/T 1363.3-2005                                      |  |
| <b>DIMENSIONS AND WEIGHT</b>                 |   |  |
| Width [mm]                                   | 442   | 442  |
| Height [mm]                                  | 100 (3U)  | 132 (3U)   |
| Depth [mm]                                   | 390   | 390  |
| Weight [kg]                                  | 24  | 32   |
| <b>GENERAL DATA</b>                          |   |  |
| Charge/ discharge operation temperature [°C] | 0 ~ 50  |  |
| Storage Temperature [°C]                     | -20 ~ 60  |  |
| Protection Class                             | IP20  |  |
| Operation Life at 25 °C                      | 15+   |  |
| Life Cycles                                  | 5000  |  |
| Backup time [Nominal power 500 W]            | ≥ 5 h   |  |
| Duration of charge maintenance               | 6 Mesi con batteria spenta                            |  |
| Transport certificate                        | UN38.3, UN 3090                                       |  |
| Certifications and regulations               | IEC 61000, EN 55022, GR-1089, GB/T 2423, TÜV, CE, TLC | IEC 61000, EN 55022, GR-1089, GB/T 2423, TÜV, CE |



GR-1089, UN 3090, EN55022, GB/T 2423



Scan to view the assembly  
video

# H32148-C

## High voltage lithium battery

### H32148-C - 4.74 kWh Modules

#### Features:

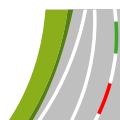
- The battery cell is LiFePO<sub>4</sub>, lithium iron phosphate (**Cobalt free**), ensures the highest level of efficiency and safety among the technologies available on the market today;
- Is designed to ensure reliable power delivery, for various types of equipment and systems;
- **Ease of expansion**, to obtain storage of important dimensions;
- Battery modules are designed to ensure long life while maintaining optimum efficiency over time.



*Pylontech Brand*

#### DIMENSIONS:

Height: 150.5 mm  
Width: 330 mm  
Depth: 628 mm  
Weight: 48 kg



## Technical data

### Lithium Battery

| MODEL  | H32148-C       |
|--|----------------|
| Items Code                                     | 90040280       |
| <b>ELECTRICAL DATA</b>                         |                |
| Cell technology                                | Li-ion (LFP)   |
| Nominal voltage [V]                            | 32             |
| Nominal capacity [kWh/Ah]                      | 4.736 / 148    |
| Depth of discharge DOD [%]                     | 90 (8-98%)     |
| Nominal current [A]                            | 74             |
| Battery module cell quantity in series [pcs]   | 10             |
| Battery cell voltage [V]                       | 3.2            |
| Battery cell capacity [Wh/Ah]                  | 118.4 / 37     |
| Battery module charge voltage [min~max, V]     | 30 ~ 36        |
| Battery system charge current [A, standard]    | 29.6           |
| Battery system charge current [A, max.]        | 148            |
| Battery system discharge current [A, standard] | 29.6           |
| Battery system discharge current [A, max.]     | 148            |
| Efficiency [%]                                 | 96             |
| <b>BUS</b>                                     |                |
| Communication Bus                              | RS485\CAN      |
| <b>GENERAL DATA</b>                            |                |
| Dimension [WxHxD, mm]                          | 330x150.5x628  |
| Weight [kg]                                    | 48             |
| Operation temperature [°C]                     | 0 ~ 50         |
| Storage temperature [°C]                       | -20 ~ 60       |
| Protection class                               | IP20           |
| Operation life [years]                         | +10            |
| Operation cycle life                           | 4000           |
| Transport certificate                          | UN38.3         |
| Certifications and regulations                 | TÜV (IEC62619) |



# Force H1

## High voltage lithium battery

### Force H1 - 3.55 kWh Modules

**Force H1** high voltage Pylontech batteries are particularly suitable for residential applications because they are aesthetically elegant and can be installed quickly without the need to connect cables between the various elements; in fact, to mount these batteries, simply place them one on top of the other.

The basic module is 3.55 kWh, the **depth of discharge** is **95%** and a capacity of **24.85 kWh** can be reached for each **7-module stack**. The battery is completed by the BMS, the upper element of the structure, which controls and regulates the charges and discharges of the system.

10 year warranty included, IP55.

Magnetothermic switch installed.

**TOP SAFETY LEVEL:**

COMPLIANT WITH STANDARD VDE 2510-50



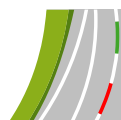
### DIMENSIONS:

Height: See table

Width: 600 mm

Depth: 380 mm

Weight: from 122 to 266 kg





## Stack of Batteries

| MODEL   | Force H1  |            |             |            |             |
|---|---|------------|-------------|------------|-------------|
| Items Code [battery module]                           | 90040220  |            |             |            |             |
| Items Code [controller BMS]                           | 90040224  |            |             |            |             |
| Battery module quantity [pcs]                         | 3   | 4          | 5           | 6          | 7           |
| Battery system voltage [V]                            | 144   | 192        | 240         | 288        | 336         |
| Battery system capacity [kWh/Ah] 1 stack              | 10.65 / 74  | 14.20 / 74 | 17.76 / 74  | 21.31 / 74 | 24.86 / 74  |
| Battery system charge/discharge current [A, normal]   | 37  |            |             |            |             |
| Dimension [600x380xH, mm]                             | 700   | 870        | 1040        | 1210       | 1380        |
| Weight [kg]   | 122   | 158        | 194         | 230        | 266         |
| Battery system charge voltage [min~max,V]             | 130.5 ~ 162   | 174 ~ 216  | 217.5 ~ 270 | 261 ~ 324  | 304.5 ~ 378 |
| Battery system charge/discharge current [A, standard] | 14,8  |            |             |            |             |
| Battery system charge/discharge current [A, max.]     | 40@15s  |            |             |            |             |
| Battery module name                                   | FH48074   |            |             |            |             |
| Battery module voltage [V]                            | 48  |            |             |            |             |
| Battery module capacity [kWh/Ah]                      | 3.552 / 74  |            |             |            |             |
| Depth of Discharge [%]                                | 95  |            |             |            |             |
| Efficiency [%]  | 96  |            |             |            |             |
| Battery controller name [BMS]                         | FC0500-40S  |            |             |            |             |
| Communication bus                                     | CANBUS / Modbus RTU   |            |             |            |             |
| Operation temperature [°C]                            | 0 ~ 50  |            |             |            |             |
| Storage temperature [°C]                              | -20 ~ 60  |            |             |            |             |
| Humidity [%]  | 5 ~ 95  |            |             |            |             |
| Protection class                                      | IP55  |            |             |            |             |
| Operation life [years]                                | 15+   |            |             |            |             |
| Operation cycle life                                  | >5000   |            |             |            |             |
| Transport certificate                                 | UN38.3  |            |             |            |             |
| Certifications and regulations                        | VDE2510-50, IEC62619, UL1973, IEC62477-1, IEC62040-1, CEC, CE |            |             |            |             |
| Battery controller dimension [WxHxD, mm]              | 600x150x380   |            |             |            |             |
| Battery module dimension [WxHxD, mm]                  | 600x170x380   |            |             |            |             |
| Battery bottom base dimension [WxHxD, mm]             | 600x40x380  |            |             |            |             |



(\*) Current value used to determine the capacity of the battery during test.



Battery Module



Scan to view the assembly video

## Battery Module

| MODEL                            | FH48074      |
|----------------------------------|--------------|
| Cell technology                  | Li-ion (LFP) |
| Battery module voltage [V]       | 48           |
| Battery module capacity [kWh/Ah] | 3.552 / 74   |
| Battery Type                     | 2p 15 s      |
| Dimension [WxHxD, mm]            | 600x170x380  |
| Weight [kg]                      | 36           |
| Battery cell voltage [V]         | 3.2          |
| Battery cell capacity [Wh/Ah]    | 118.4 / 37   |
| Operation temperature [°C]       | 0 ~ 50       |
| Storage temperature [°C]         | -20 ~ 60     |
| Operation life [years]           | 15+          |
| Operation cycle life             | 5000         |
| Transport certificate            | UN38.3       |



# Force H2

## High voltage lithium battery

### Force H2 - 3.55 kWh Modules

**Force H2** high voltage Pylontech batteries are particularly suitable for residential applications because they are aesthetically elegant and can be installed quickly without the need to connect cables between the various elements; in fact, to mount these batteries, simply place them one on top of the other.

The basic module is 3.55 kWh, the **depth of discharge** is **95%** and a capacity of **14.20 kWh** can be reached for each **4-module stack**. The battery is completed by the BMS, the upper element of the structure, which controls and regulates the charges and discharges of the system.

10 year warranty included, IP55.

Magnetothermic switch installed.



Stack of Batteries

Pylontech Brand

TOP SAFETY LEVEL:

COMPLIANT WITH STANDARD VDE 2510-50

### DIMENSIONS:

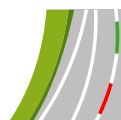
Height: See table  
 Width: 450 mm  
 Depth: 296 mm  
 Weight: from 82 to 152 kg



BMS Module



BMS Display



## Stack of Batteries

| MODEL   | Force H2  |            |            |
|---|---|------------|------------|
| Items Code [battery module]                           | 90040218  |            |            |
| Items Code [controller BMS]                           | 90040219  |            |            |
| Battery module quantity [pcs]                         | 2   | 3          | 4          |
| Battery system voltage [V]                            | 192   | 288        | 384        |
| Battery system capacity [kWh/Ah] 1 stack              | 7.10 / 37   | 10.65 / 37 | 14.20 / 37 |
| Battery system charge/discharge current [A, normal]   | 18.5  |            |            |
| Dimension [450x296xA, mm]                             | 822   | 1118       | 1414       |
| Weight [kg]   | 82  | 117        | 152        |
| Battery system charge voltage [min~max,V]             | 174 / 216   | 261 / 324  | 348 / 432  |
| Battery system charge/discharge current [A, standard] | 7.4   |            |            |
| Battery system charge/discharge current [A, max.]     | 40@15s  |            |            |
| Battery module name                                   | FH9637M   |            |            |
| Battery module voltage [V]                            | 96  |            |            |
| Battery module capacity [kWh/Ah]                      | 3.552 / 37  |            |            |
| Depth of Discharge [%]                                | 95  |            |            |
| Efficiency [%]  | 96  |            |            |
| Battery controller name [BMS]                         | FC0500M-40S   |            |            |
| Communication bus                                     | CANBUS / Modbus RTU                                   |            |            |
| Operation temperature [°C]                            | 0 ~ 50  |            |            |
| Storage temperature [°C]                              | -20 ~ 60  |            |            |
| Humidity [%]  | 5 ~ 95  |            |            |
| Protection class                                      | IP55  |            |            |
| Operation life [years]                                | 15+   |            |            |
| Operation cycle life                                  | >5000   |            |            |
| Transport certificate                                 | UN38.3  |            |            |
| Certifications and regulations                        | VDE2510-50, IEC62619, IEC62477-1, IEC62040-1, CEC, CE |            |            |
| Battery controller dimension [WxHxD, mm]              | 450x190x296   |            |            |
| Battery module dimension [WxHxD, mm]                  | 450x296x296   |            |            |
| Battery bottom base dimension [WxHxD, mm]             | 450x40x296  |            |            |



(\*) Current value used to determine the capacity of the battery during test.



Battery Module



Scan to view the assembly video

## Battery Module

| MODEL                            | FH9637M      |
|----------------------------------|--------------|
| Cell technology                  | Li-ion (LFP) |
| Battery module voltage [V]       | 96           |
| Battery module capacity [kWh/Ah] | 3.552 / 37   |
| Dimension [WxHxD, mm]            | 450x296x296  |
| Weight [kg]                      | 35           |
| Battery cell voltage [V]         | 3.2          |
| Battery cell capacity [Wh/Ah]    | 118.4 / 37   |
| N° cell quantity in series [pcs] | 30           |
| Operation temperature [°C]       | 0 ~ 50       |
| Storage temperature [°C]         | -20 ~ 60     |
| Operation life [years]           | 15+          |
| Operation cycle life             | 5000         |
| Transport certificate            | UN38.3       |



# BMS

## Battery Management System

The **BMS** (Battery Management System) can manage and monitor cell information, including voltage, current and temperature as well as keep cells balanced during the charge / discharge process, in order to improve battery life performance.

The Battery Management System (BMS) has overcharge, overvoltage, overcurrent and high / low temperature protection functions. The absence of forced ventilation systems for cooling reduces the noise of the entire system. The operating temperature range, to ensure excellent charging / discharging performance as well as duration is between 0 ° C and 50 ° C.



### Technical data

| MODEL                          | SC0500-40S V2         | SC0500-100S V2 | SC1000-100S V2        | SC1000-200J-C                          |
|--------------------------------|-----------------------|----------------|-----------------------|--|
| Items Code                     | 90040272              | 90040273       | 90040274              | 90040281                               |
| <b>ELECTRICAL DATA</b>         |                       |                |                       |  |
| Related product                | PowerCube-X1-X2<br>V2 |                | PowerCube-H1-H2<br>V2 | PowerCube-M1<br>zeroCO <sub>2</sub> XL |
| Battery modules quantity [pcs] | 2 ~ 10                |                | 5 ~ 18                | fino a 26                              |
| Self-consumption power [W]     | 8                     |                |                       | 6                                      |
| Operating voltage [Vdc]        | 60~600                |                | 200~1000              | 200~1000                               |
| System working voltage [Vdc]   | 60~600                |                | 200~1000              | 200~1000                               |
| Discharge voltage [Vdc]        | 60~600                |                | 200~1000              | 200~1000                               |
| Max. Charging current [A]      | 40                    | 100            | 100                   | 148                                    |
| Max. Discharge current [A]     | 40                    | 100            | 100                   | 148                                    |
| Communication                  | Modbus RTU\CAN\LAN    |                |                       |  |
| <b>GENERAL DATA</b>            |                       |                |                       |  |
| Dimension [WxHxD, mm]          | 442x87x390            |                | 442x132x390           | 330x150.5x628                          |
| Weight [kg]                    | 7                     |                | 9                     | 13                                     |
| Operating temperature [°C]     | -20 ~ 65              |                |                       | -20 ~ 65                               |
| Storage temperature [°C]       | -40 ~ 80              |                |                       | -40 ~ 80                               |
| Protection Class               |                       |                | IP20                  |  |
| Design Life [years]            |                       |                | +15                   |  |
| Certification                  |                       |                | TÜV, CE               |  |



# PRODUCT CODES

|              | CODE     | DESCRIPTION   |
|--------------|----------|---|
| LOW VOLTAGE  | 90040082 | Pylontech US3000C Lithium battery module Rev. C - 74 A/48V - 3.55 kWh - DOD 95%   |
|              | 90040084 | Pylontech US3000C Lithium battery module Rev. C - 74 A/48V - 3.55 kWh - DOD 95%   |
|              | 90040214 | Pylontech LV-Hub MBMS parallel module for low voltage batteries   |
|              | 90040225 | Pylontech FL48074M Lithium battery module 74A/48V - 3.55 kWh - DOD 95% - Force L2   |
|              | 90040226 | Pylontech FC048M-100S Low voltage 48 V BMS module - Stackable - Force L2 - Complete with rear fixing                      |
|              | 90040227 | Pylontech FL48074 Lithium battery module 74A/48V - 3.55 kWh - DOD 95% - Force L1  |
|              | 90040228 | Pylontech FC048-100S Low voltage 48 V BMS module - Stackable - Force L1   |
|              | 90040500 | Dyness B4850 - Battery module 50 Ah/48V - 2,4 kWh - DOD 95%: Dangerous Goods UN3480 lithium ion battery, class 9          |
| HIGH VOLTAGE | 90040200 | Pylontech H48050 Lithium battery module 25 A/48V - 2.4 kWh - DOD 95%  |
|              | 90040201 | Pylontech H48074 Lithium battery module 25 A/48V - 3.55 kWh - DOD 95%   |
|              | 90040212 | Pylontech MBMS1000 Parallel MBMS module for high voltage batteries  |
|              | 90040218 | Pylontech FH9637M Lithium battery module 37A/96V - 3.55 kWh - DOD 95% - Force H2  |
|              | 90040219 | Pylontech FC0500M High voltage BMS module 150-450 V - Stackable - Force H2 - Complete with rear fixing                    |
|              | 90040220 | Pylontech FH48074 Lithium battery module 74A/48V - 3.55 kWh - DOD 95% - Force H1  |
|              | 90040224 | Pylontech FC500 High voltage BMS module 150-450 V - Stackable - Force H1  |
|              | 90040272 | Pylontech SC0500-40S-V2 High voltage BMS module 60-600V for H48050 and H48074 - Remote update and cloud monitoring        |
|              | 90040273 | Pylontech SC0500-100S-V2 High voltage BMS module 60-600V for H48050 and H48074 - Remote update and cloud monitoring       |
|              | 90040274 | Pylontech SC1000-100S-V2 High voltage BMS module 200-1000V for H48050 and H48074 - Remote update and cloud monitoring     |
|              | 90040280 | Pylontech H32148C Lithium battery module 148 A/32V - 4.74 kWh - DOD 90% - DANGEROUS GOODS: UN3480 Li-ion battery, class 9 |
|              | 90040281 | Pylontech BMS SC1000-200J-C with internal power supply (for H32148C)  |

# ACCESSORY CODES

| CODE     | DESCRIPTION  |
|----------|--|
| 90900220 | Pylontech - Inverter / battery connection cables kit                   |
| 90900080 | Pylontech - H480xxA / BMS module connection cable kit                  |
| 90040360 | Power Cube Rack Kit complete with brackets and support feet*           |
| 90040380 | Power Cube M1 - Rack 24 Modules*                                       |
| 90040384 | Power cube rack H1*  |
| 90040385 | Power cube rack H2*  |
| 90040340 | Kit Case Pylontech 6U*   |
| 90040342 | Kit Case Pylontech 9U*   |
| 90040344 | Kit Case Pylontech 12U*  |
| 90040348 | Kit Case Pylontech 24U*  |
| 90040350 | Kit Case Pylontech 33U*  |
| 90040352 | Kit Case Pylontech 42U*  |
| 90040546 | Rack 19" ZeroCO2 Sun Box - 16U complete with brackets and support feet |

\* The rackable batteries have a height from 2 to 3U (rack unit) and are easily installed in special rack cabinets supplied on request by Energy S.p.A.







Request the product catalog from the distributors of photovoltaic material

## Energy S.p.A.

Registered Office: Piazza Manifattura, 1 - 38068 Rovereto TN - Italy

Operations/Warehouse: Via Zona Industriale, 10 - 35020 Sant'Angelo di Piove di Sacco PD - Italy

Tel. +39 049 2701296 - [info@energysynt.com](mailto:info@energysynt.com)

[www.retiintelligenti.com](http://www.retiintelligenti.com) - [www.energyspa.com](http://www.energyspa.com) - [www.bandoaccumulo.com](http://www.bandoaccumulo.com)

