

# Hardware

| Code                    | Description                             | Quantity                           | Note                                                                                                                                                                         |
|-------------------------|-----------------------------------------|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Basic</b>            | <b>Required for basic functionality</b> |                                    |                                                                                                                                                                              |
| <b>BM-GW</b>            | BTMS IOT Gateway                        | 1 × BM-GW for up to 32 strings     | All strings of one UPS should be on the same BM-GW                                                                                                                           |
| <b>BM-SS or BM-SM</b>   | BTMS String master                      | 1 × BM-SS or BM-SM for each string |                                                                                                                                                                              |
| <b>BM-HS</b>            | BTMS Hall sensor                        | 1 × BM-HS for each string          | Choose the type based on the maximum string current                                                                                                                          |
| <b>BM-CS</b>            | BTMS Cell sensor                        | 1 × BM-CS for each battery         | Choose 2, 6 or 12 V sensors depending on the battery voltage                                                                                                                 |
| <b>05.01.ps-60-24</b>   | BTMS Power supply                       | 1 × PS-60-24 for each BTMS         | One power supply can power several devices, if there are fewer of them than allowed according to the specification. Checks against the total consumption of powered devices. |
| <b>05.02.ps-30-12</b>   | BM-GW Power supply                      | 1 × PS-30-12 for each BM-GW        |                                                                                                                                                                              |
| <b>Optional</b>         | <b>Depending on requirements</b>        |                                    |                                                                                                                                                                              |
| <b>06.02.bm-mc</b>      | BTMS Master controller                  | 1 × BM-MC for up to 32 strings     |                                                                                                                                                                              |
| <b>06.03.tm-c-a1</b>    | BTMS Controller set                     | 1 × BM-C-A1 for up to 32 strings   | Consisting of <a href="#">06.02.bm-mc</a> , <a href="#">07.cad-232-a2-iq</a> and software                                                                                    |
| <b>07.cad-232-a2-iq</b> | BTMS COM converter                      | 1 × BM-CAD per BM-HMI              | They require BM-MC                                                                                                                                                           |
| <b>08.com-pgm</b>       | BTMS COM module                         | 1 × BM-COM for up to 16 BM-CS      | For more than 16 BM-CS (up to 32) use 2nd BM-COM                                                                                                                             |
| <b>09.bm-lc</b>         | BTMS IO expansion module                | 1 × BM-LC for up to 8 strings      | They require BM-MC                                                                                                                                                           |
| <b>11.bm-th</b>         | BTMS Temperature and humidity sensor    | 1 × BM-TH for every string         | They require BM-MC                                                                                                                                                           |
| <b>10.bm-gs</b>         | BTMS Insulation monitoring sensor       | 1 × BM-GS for every string         | They require BM-MC and BM-COM                                                                                                                                                |

| Code                          | Description                                           | Quantity                                             | Note                                                                                      |
|-------------------------------|-------------------------------------------------------|------------------------------------------------------|-------------------------------------------------------------------------------------------|
| <a href="#">12.bm-hmi</a>     | BTMS Human-Machine Interfaces                         | 1 × BM-HMI for up to 32 strings                      | They require BM-C-A1 (BM-MC + BM-CAD), 1 per BM-C-A1                                      |
| <a href="#">13.bm-ag</a>      | BTMS IOT Aggregator                                   | 1 × BM-AG per Data center                            | Needed when there are multiple BM-GWs on the Data Center                                  |
| <a href="#">06.04.th-mc</a>   | Temperature and humidity monitoring Master controller | 1 × TH-MC for up to 120 temperature-humidity sensors |                                                                                           |
| <a href="#">06.03.tm-c-a1</a> | Temperature and humidity monitoring Controller set    | 1 × TH-MC for up to 120 temperature-humidity sensors | Consisting of <a href="#">06.04.th-mc</a> , <a href="#">07.cad-232-a2-iq</a> and software |

## System limitations

| Device         | Supports up to                    |
|----------------|-----------------------------------|
| BM-AG          | unlimited BM-GW                   |
| BM-GW          | 32 × BM-SS, 1 × BM-MC             |
| BM-MC          | 32 × BM-TH, 4 × BM-LC, 1 × BM-HMI |
| BM-SS or BM-SM | 120 × BM-CS                       |

## Standard cabinets

|                     |                          |
|---------------------|--------------------------|
| <b>BTMS Cabinet</b> | <a href="#">14.bm-ca</a> |
|---------------------|--------------------------|