

# Sigen Energy Controller

3.0 – 12.0 kW | Single Phase  
5.0 – 30.0 kW | Three Phase

- EMS-integrated intelligent management for precision control
- Max. 2.0 DC/AC ratio compatibility, higher energy utilization (Single Phase)
- Unbalanced 3-phase power output, ensuring efficient operation
- 200% peak output power in off-grid mode, instant high-power boost
- Up to 4 MPP trackers for maximum solar energy extraction



Sigen Energy Controller 3.0–12.0 kW Single Phase

| SigenStor EC                                  | 3.0 SP | 4.0 SP             | 5.0 SP | 6.0 SP                                                                                                                                                                                                                                          | 8.0 SP            | 10.0 SP | 12.0 SP | Units |
|-----------------------------------------------|--------|--------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------|---------|-------|
| DC Input (from PV)                            |        |                    |        |                                                                                                                                                                                                                                                 |                   |         |         |       |
| Max. PV power                                 | 6000   | 8000               | 10000  | 12000                                                                                                                                                                                                                                           | 16000             | 20000   | 24000   | W     |
| Max. DC input voltage <sup>1</sup>            |        |                    |        | 600                                                                                                                                                                                                                                             |                   |         |         | V     |
| Nominal DC input voltage                      |        |                    |        | 350                                                                                                                                                                                                                                             |                   |         |         | V     |
| Start-up voltage                              |        |                    |        | 100                                                                                                                                                                                                                                             |                   |         |         | V     |
| MPPT voltage range                            |        |                    |        | 50 ~ 550                                                                                                                                                                                                                                        |                   |         |         | V     |
| Number of MPP. trackers                       | 2      | 2                  | 2      | 2                                                                                                                                                                                                                                               | 3                 | 4       | 4       |       |
| Number of PV strings per MPPT                 |        |                    |        | 1                                                                                                                                                                                                                                               |                   |         |         |       |
| Max. input current per MPPT                   |        |                    |        | 16                                                                                                                                                                                                                                              |                   |         |         | A     |
| Max. short-circuit current per MPPT           |        |                    |        | 20                                                                                                                                                                                                                                              |                   |         |         | A     |
| AC Output (on-grid)                           |        |                    |        |                                                                                                                                                                                                                                                 |                   |         |         |       |
| Nominal output power                          | 3000   | 4000               | 5000   | 6000                                                                                                                                                                                                                                            | 8000              | 10000   | 12000   | W     |
| Max. output apparent power                    | 3300   | 4400               | 5500   | 6600                                                                                                                                                                                                                                            | 8800              | 11000   | 12000   | VA    |
| Nominal output current                        | 13.6   | 18.2               | 22.7   | 27.3                                                                                                                                                                                                                                            | 36.4              | 45.5    | 54.6    | A     |
| Max. output current                           | 15.0   | 20.0               | 25.0   | 30.0                                                                                                                                                                                                                                            | 40.0              | 50.0    | 54.6    | A     |
| Nominal output voltage                        |        | 220 / 230 / 240    |        |                                                                                                                                                                                                                                                 | 220 / 230         |         |         | V     |
| Nominal grid frequency                        |        |                    |        | 50 / 60                                                                                                                                                                                                                                         |                   |         |         | Hz    |
| Power factor                                  |        |                    |        | 0.8 leading ~ 0.8 lagging                                                                                                                                                                                                                       |                   |         |         |       |
| Total current harmonic distortion             |        |                    |        | THDi < 2%                                                                                                                                                                                                                                       |                   |         |         |       |
| Efficiency                                    |        |                    |        |                                                                                                                                                                                                                                                 |                   |         |         |       |
| Max. efficiency                               | 98.0%  | 98.0%              | 98.0%  | 98.0%                                                                                                                                                                                                                                           | 97.6%             | 97.6%   | 97.6%   |       |
| European efficiency                           | 97.0%  | 97.2%              | 97.4%  | 97.4%                                                                                                                                                                                                                                           | 97.0%             | 97.0%   | 97.0%   |       |
| AC Output (backup)                            |        |                    |        |                                                                                                                                                                                                                                                 |                   |         |         |       |
| Peak output power (10 seconds) <sup>2</sup>   |        |                    |        | 2 times of nominal output power                                                                                                                                                                                                                 |                   |         |         |       |
| Nominal output voltage                        |        | 220 / 230 / 240    |        |                                                                                                                                                                                                                                                 | 220 / 230         |         |         | V     |
| Nominal output frequency                      |        |                    |        | 50 / 60                                                                                                                                                                                                                                         |                   |         |         | Hz    |
| Power factor                                  |        |                    |        | 0.8 leading ~ 0.8 lagging                                                                                                                                                                                                                       |                   |         |         |       |
| Total voltage harmonic distortion             |        |                    |        | THDv < 2%                                                                                                                                                                                                                                       |                   |         |         |       |
| Disruption time of backup switch <sup>3</sup> |        |                    |        | 0                                                                                                                                                                                                                                               |                   |         |         | ms    |
| Battery Connection                            |        |                    |        |                                                                                                                                                                                                                                                 |                   |         |         |       |
| Battery module models                         |        |                    |        | SigenStor BAT series                                                                                                                                                                                                                            |                   |         |         |       |
| Number of modules per controller              |        |                    |        | 1 ~ 6                                                                                                                                                                                                                                           |                   |         |         | pcs   |
| Battery module voltage range                  |        |                    |        | 300 ~ 600                                                                                                                                                                                                                                       |                   |         |         | V     |
| Protection                                    |        |                    |        |                                                                                                                                                                                                                                                 |                   |         |         |       |
| Safety protection feature                     |        |                    |        | DC reverse polarity protection, Insulation monitoring, Residual current monitoring, Arc fault circuit interrupter <sup>4</sup> , AC overcurrent/overvoltage/short-circuit protection. Type II DC/AC surge protection, Anti-islanding protection |                   |         |         |       |
| General Data                                  |        |                    |        |                                                                                                                                                                                                                                                 |                   |         |         |       |
| Dimensions (W / H / D)                        |        | 700 / 300 / 245    |        |                                                                                                                                                                                                                                                 | 700 / 300 / 260   |         |         | mm    |
| Weight                                        |        | 18                 |        |                                                                                                                                                                                                                                                 | 36                |         |         | kg    |
| Storage temperature range                     |        |                    |        | -40 ~ 70                                                                                                                                                                                                                                        |                   |         |         | °C    |
| Operating temperature range                   |        |                    |        | -30 ~ 60                                                                                                                                                                                                                                        |                   |         |         | °C    |
| Relative humidity range                       |        |                    |        | 0% ~ 100%                                                                                                                                                                                                                                       |                   |         |         |       |
| Max. operating altitude                       |        |                    |        | 4000                                                                                                                                                                                                                                            |                   |         |         | m     |
| Cooling                                       |        | Natural convection |        |                                                                                                                                                                                                                                                 | Smart air cooling |         |         |       |
| System ingress protection rating              |        |                    |        | IP66                                                                                                                                                                                                                                            |                   |         |         |       |
| Standard Compliance <sup>5</sup>              |        |                    |        |                                                                                                                                                                                                                                                 |                   |         |         |       |
| EMC                                           |        |                    |        | IEC/EN 62311, IEC/EN 61000-6-1/2/3/4, IEC/EN 61000-3-2/11, EN 61000-3-3/12, ETSI EN 301 489-1/3/17                                                                                                                                              |                   |         |         |       |
| Safety                                        |        |                    |        | IEC/EN 62109-1, IEC 62109-2, EN 62477                                                                                                                                                                                                           |                   |         |         |       |
| Grid compliance                               |        |                    |        | IEC 62116, IEC 61727, EN 50549-1, UNE 217001/UNE 217002/NTS 631, CEI 0-21, XP C15-712-3, C10/11, G98/G99/G100, VDE 4105, NRS 097                                                                                                                |                   |         |         |       |

1.

The inverter will initiate protection if the input voltage exceeds the MPPT operating voltage range.
2.

Actual load starting performance depends on the load type and its characteristics; practical results may vary.
3.

This refers to the load-side disruption time, to achieve this functionality Sigen Energy Gateway needs to be used together with Sigen Energy Controller and Sigen Battery. Test conditions: In the open-circuit state of the power grid, the nominal power of the Sigen Energy Controller is higher than the total power of the home loads.
4.

This is an optional feature only supported in certain models, please contact Sigenergy for more information.
5.

For all standards refer to the certificates catogary on the Sigenergy website.

Sigen Energy Controller 5.0–30.0 kW Three Phase

| SigenStor EC                                  | 5.0 TP | 6.0 TP | 8.0 TP | 10.0 TP | 12.0 TP                                                                                                                                                                                                                                         | 15.0 TP | 17.0 TP | 20.0 TP | 25.0 TP | 30.0 TP | Units |
|-----------------------------------------------|--------|--------|--------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|---------|---------|---------|-------|
| DC Input (from PV)                            |        |        |        |         |                                                                                                                                                                                                                                                 |         |         |         |         |         |       |
| Max. PV power                                 | 8000   | 9600   | 12800  | 16000   | 19200                                                                                                                                                                                                                                           | 24000   | 27200   | 32000   | 40000   | 48000   | W     |
| Max. DC input voltage <sup>1</sup>            |        |        |        |         | 1100                                                                                                                                                                                                                                            |         |         |         |         |         | V     |
| Nominal DC input voltage                      |        |        |        |         | 600                                                                                                                                                                                                                                             |         |         |         |         |         | V     |
| Start-up voltage                              |        |        |        |         | 180                                                                                                                                                                                                                                             |         |         |         |         |         | V     |
| MPPT voltage range                            |        |        |        |         | 160 ~ 1000                                                                                                                                                                                                                                      |         |         |         |         |         | V     |
| Number of MPP. trackers                       | 2      | 2      | 2      | 3       | 3                                                                                                                                                                                                                                               | 3       | 4       | 4       | 4       | 4       |       |
| Number of PV strings per MPPT                 |        |        |        |         | 1                                                                                                                                                                                                                                               |         |         |         |         |         |       |
| Max. input current per MPPT                   |        |        |        |         | 16                                                                                                                                                                                                                                              |         |         |         |         |         | A     |
| Max. short-circuit current per MPPT           |        |        |        |         | 20                                                                                                                                                                                                                                              |         |         |         |         |         | A     |
| AC Output (on-grid)                           |        |        |        |         |                                                                                                                                                                                                                                                 |         |         |         |         |         |       |
| Nominal output power                          | 5000   | 6000   | 8000   | 10000   | 12000                                                                                                                                                                                                                                           | 15000   | 17000   | 20000   | 25000   | 30000   | W     |
| Max. output apparent power                    | 5500   | 6600   | 8800   | 11000   | 13200                                                                                                                                                                                                                                           | 16500   | 18700   | 22000   | 27500   | 33000   | VA    |
| Nominal output current                        | 7.6    | 9.1    | 12.2   | 15.2    | 18.2                                                                                                                                                                                                                                            | 22.8    | 25.8    | 30.4    | 38.0    | 45.5    | A     |
| Max. output current                           | 8.4    | 10.0   | 13.4   | 16.7    | 20.1                                                                                                                                                                                                                                            | 25.1    | 28.4    | 33.4    | 41.8    | 50.0    | A     |
| Nominal output voltage                        |        |        |        |         | 380 / 400, 3W+N+PE                                                                                                                                                                                                                              |         |         |         |         |         | V     |
| Nominal grid frequency                        |        |        |        |         | 50 / 60                                                                                                                                                                                                                                         |         |         |         |         |         | Hz    |
| Power factor                                  |        |        |        |         | 0.8 leading ~ 0.8 lagging                                                                                                                                                                                                                       |         |         |         |         |         |       |
| Total current harmonic distortion             |        |        |        |         | THDi < 2%                                                                                                                                                                                                                                       |         |         |         |         |         |       |
| Efficiency                                    |        |        |        |         |                                                                                                                                                                                                                                                 |         |         |         |         |         |       |
| Max. efficiency                               | 98.1%  | 98.2%  | 98.3%  | 98.3%   | 98.3%                                                                                                                                                                                                                                           | 98.3%   | 98.3%   | 98.3%   | 98.3%   | 98.4%   |       |
| European efficiency                           | 96.1%  | 96.6%  | 97.1%  | 97.5%   | 97.7%                                                                                                                                                                                                                                           | 97.9%   | 97.9%   | 97.9%   | 98.0%   | 98.0%   |       |
| AC Output (backup)                            |        |        |        |         |                                                                                                                                                                                                                                                 |         |         |         |         |         |       |
| Peak output power (10 seconds) <sup>2</sup>   |        |        |        |         | 2 times of nominal output power                                                                                                                                                                                                                 |         |         |         |         |         |       |
| Nominal output voltage                        |        |        |        |         | 380 / 400, 3W+N+PE                                                                                                                                                                                                                              |         |         |         |         |         | V     |
| Nominal output frequency                      |        |        |        |         | 50 / 60                                                                                                                                                                                                                                         |         |         |         |         |         | Hz    |
| Power factor                                  |        |        |        |         | 0.8 leading ~ 0.8 lagging                                                                                                                                                                                                                       |         |         |         |         |         |       |
| Total voltage harmonic distortion             |        |        |        |         | THDv < 2%                                                                                                                                                                                                                                       |         |         |         |         |         |       |
| Disruption time of backup switch <sup>3</sup> |        |        |        |         | 0                                                                                                                                                                                                                                               |         |         |         |         |         | ms    |
| Battery Connection                            |        |        |        |         |                                                                                                                                                                                                                                                 |         |         |         |         |         |       |
| Battery module models                         |        |        |        |         | SigenStor BAT series                                                                                                                                                                                                                            |         |         |         |         |         |       |
| Number of modules per controller              |        |        |        |         | 1 ~ 6                                                                                                                                                                                                                                           |         |         |         |         |         | pcs   |
| Battery module voltage range                  |        |        |        |         | 600 ~ 900                                                                                                                                                                                                                                       |         |         |         |         |         | V     |
| Protection                                    |        |        |        |         |                                                                                                                                                                                                                                                 |         |         |         |         |         |       |
| Safety protection feature                     |        |        |        |         | DC reverse polarity protection, Insulation monitoring, Residual current monitoring, Arc fault circuit interrupter <sup>4</sup> , AC overcurrent/overvoltage/short-circuit protection. Type II DC/AC surge protection, Anti-islanding protection |         |         |         |         |         |       |
| General Data                                  |        |        |        |         |                                                                                                                                                                                                                                                 |         |         |         |         |         |       |
| Dimensions (W / H / D)                        |        |        |        |         | 700 / 300 / 260                                                                                                                                                                                                                                 |         |         |         |         |         | mm    |
| Weight                                        | 36     | 36     | 36     | 36      | 36                                                                                                                                                                                                                                              | 36      | 36      | 36      | 36      | 38      | kg    |
| Storage temperature range                     |        |        |        |         | -40 ~ 70                                                                                                                                                                                                                                        |         |         |         |         |         | °C    |
| Operating temperature range                   |        |        |        |         | -30 ~ 60                                                                                                                                                                                                                                        |         |         |         |         |         | °C    |
| Relative humidity range                       |        |        |        |         | 0% ~ 100%                                                                                                                                                                                                                                       |         |         |         |         |         |       |
| Max. operating altitude                       |        |        |        |         | 4000                                                                                                                                                                                                                                            |         |         |         |         |         | m     |
| Cooling                                       |        |        |        |         | Smart air cooling                                                                                                                                                                                                                               |         |         |         |         |         |       |
| System ingress protection rating              |        |        |        |         | IP66                                                                                                                                                                                                                                            |         |         |         |         |         |       |
| Standard Compliance <sup>5</sup>              |        |        |        |         |                                                                                                                                                                                                                                                 |         |         |         |         |         |       |
| EMC                                           |        |        |        |         | IEC/EN 62311, IEC/EN 61000-6-1/2/3/4, IEC/EN 61000-3-2/11, EN 61000-3-3/12, ETSI EN 301 489-1/3/17                                                                                                                                              |         |         |         |         |         |       |
| Safety                                        |        |        |        |         | IEC/EN 62109-1, IEC 62109-2, EN 62477                                                                                                                                                                                                           |         |         |         |         |         |       |
| Grid compliance                               |        |        |        |         | IEC 62116, IEC 61727, EN 50549-1, UNE 217001/UNE 217002/NTS 631, CEI 0-21, UTE C15-712-1, C10/11, G98/G99/G100, VDE 4105, NRS 097                                                                                                               |         |         |         |         |         |       |

1.

The inverter will initiate protection if the input voltage exceeds the MPPT operating voltage range.
2.

Actual load starting performance depends on the load type and its characteristics; practical results may vary.
3.

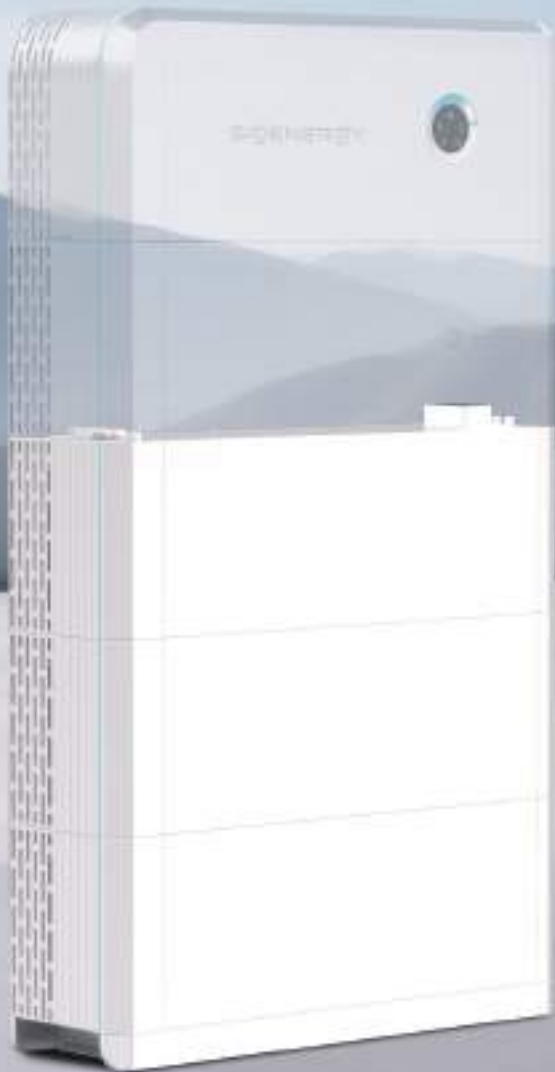
This refers to the load-side disruption time, to achieve this functionality Sigen Energy Gateway needs to be used together with Sigen Energy Controller and Sigen Battery. Test conditions: In the open-circuit state of the power grid, the nominal power of the Sigen Energy Controller is higher than the total power of the home loads.
4.

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5.

For all standards refer to the certificates catogary on the Sigenergy website.

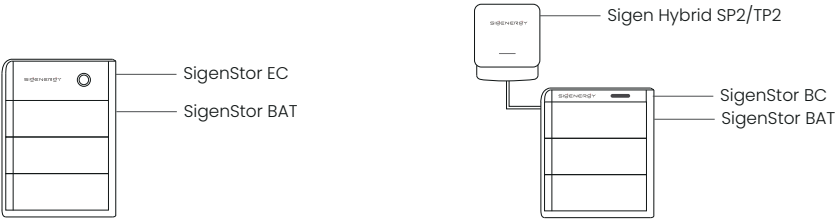
# Sigen Battery

- Premium 314Ah cells with 10,000 cycles, long-lasting & reliable
- 5-layer battery safety protection to define the safety standard
- Battery optimizer inside, mix old and new, upgrade with ease
- Higher energy density, efficient storage, compact design
- 100% depth of discharge, maximum energy utilization



## Sigen Battery 6.0 / 10.0

| SigenStor BAT                              | 6.0                                                               | 10.0 | Units |
|--------------------------------------------|-------------------------------------------------------------------|------|-------|
| Performance Specification                  |                                                                   |      |       |
| Battery type                               | LiFePO4                                                           |      |       |
| Cell capacity                              | 314                                                               |      | Ah    |
| Cycle life <sup>1</sup>                    | 10000                                                             |      |       |
| Total energy capacity                      | 6.02                                                              | 9.04 | kWh   |
| Usable energy capacity <sup>2</sup>        | 5.84                                                              | 8.76 | kWh   |
| Depth of discharge <sup>3</sup>            | 100%                                                              |      |       |
| Max. charge / discharge power              | 3000                                                              | 4600 | W     |
| Peak charge / discharge power (10 seconds) | 4500                                                              | 6900 | W     |
| General Data                               |                                                                   |      |       |
| Weight                                     | 62                                                                | 78   | kg    |
| Dimensions (W / H / D)                     | 767 / 270 / 265                                                   |      | mm    |
| Storage temperature range                  | -25 ~ 60                                                          |      | °C    |
| Operating temperature range                | -20 ~ 55                                                          |      | °C    |
| Relative humidity range                    | 5% ~ 95%                                                          |      |       |
| Max. operating altitude                    | 4000                                                              |      | m     |
| Cooling                                    | Natural convection                                                |      |       |
| System ingress protection rating           | IP66                                                              |      |       |
| Installation method                        | Floor standing / Wall-mounted                                     |      |       |
| Number of modules per controller           | 1 ~ 6                                                             |      | pcs   |
| Compatible inverters                       | SigenStor EC series, Sigen Hybrid SP2/TP2 series <sup>4</sup>     |      |       |
| Standard Compliance                        |                                                                   |      |       |
| Standard <sup>5</sup>                      | IEC/EN 60730-1, UN 38.3, IEC/EN 62619, IEC/EN 63056, IEC/EN 62477 |      |       |
|                                            | SigenStor BC                                                      |      |       |
| Operating voltage range (Single Phase)     | 300 ~ 600                                                         |      | V     |
| Operating voltage range (Three Phase)      | 600 ~ 900                                                         |      | V     |
| Weight                                     | 8                                                                 |      | kg    |
| Dimensions (W / H / D)                     | 765 / 109 / 260 (without decorative cover)                        |      | mm    |
| Compatible battery                         | SigenStor BAT series                                              |      |       |
| Compatible inverter                        | Sigen Hybrid SP2/TP2 series                                       |      |       |
| Communication                              | CAN                                                               |      |       |



1. This is provided by the battery cell manufacturer. Based on cell test condition of 25±2°C, 0.5C charge and discharge rate and SOH=60%.

2. Test conditions: 100% depth of discharge, 0.2C rate charge & discharge averagely at 25°C, at the beginning of life.

3. Refers to the usable energy capacity. Battery must be recharged within 7 days after being fully discharged to keep battery healthy.

4. SigenStor BC must be used if Sigen Hybrid SP2/TP2 is to be connected to the Sigen Battery.

5. For all standards refer to the certificates category on the Sigenenergy website.