

# Hybrid Energy Storage System

(29.9~50kW/30~180kWh)

- Flexible capacity options, 29.9~50kW/30~180kWh
- Support multiple sets of sub-systems operation in parallel in off-grid mode
- Multiple MPPTs and battery input for single system
- Easy installation and maintenance
- Suitable for multiple C&I application scenarios
- Support UPS function
- Strong power grid adaptability



P O W E R  
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| Hybrid Inverter Data                                                                                                                                                       |                 |             |                                |              |              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------|--------------------------------|--------------|--------------|
| Model                                                                                                                                                                      | WIT 29.9K-XHU   | WIT 30K-XHU | WIT 36K-XHU                    | WIT 40K-XHU  | WIT 50K-XHU  |
| Input Data (PV)                                                                                                                                                            |                 |             |                                |              |              |
| Max. recommended PV power (for module STC)                                                                                                                                 | 59.8kW          | 60kW        | 72kW                           | 80kW         | 100kW        |
| Start voltage                                                                                                                                                              |                 |             | 195V                           |              |              |
| Max. DC voltage                                                                                                                                                            |                 |             | 1100V                          |              |              |
| Nominal voltage                                                                                                                                                            |                 |             | 620V                           |              |              |
| Max. open circuit voltage of PV                                                                                                                                            |                 |             | 1000V                          |              |              |
| Operating voltage range                                                                                                                                                    |                 |             | 180V-1000V                     |              |              |
| Full load DC voltage range                                                                                                                                                 | 375V-850V       | 375V-850V   | 450V-850V                      | 500V-850V    | 620V-850V    |
| Max. input current per MPP tracker                                                                                                                                         |                 |             | 40A                            |              |              |
| Max. short-circuit current per MPP tracker                                                                                                                                 |                 |             | 50A                            |              |              |
| No. of PV strings per MPP tracker                                                                                                                                          |                 |             | 2                              |              |              |
| No. of MPP trackers                                                                                                                                                        |                 |             | 4                              |              |              |
| Battery Data (DC)                                                                                                                                                          |                 |             |                                |              |              |
| Battery voltage range                                                                                                                                                      |                 |             | 200-900V                       |              |              |
| Full load battery voltage range                                                                                                                                            | 200-800V        | 200-800V    | 225-800V                       | 250-800V     | 310-800V     |
| Recommended battery voltage                                                                                                                                                |                 |             | 512V                           |              |              |
| No. of battery input                                                                                                                                                       |                 |             | 3                              |              |              |
| Max. charging/discharging current                                                                                                                                          |                 |             | 55A*3                          |              |              |
| BMS communication                                                                                                                                                          |                 |             | RS485/CAN                      |              |              |
| Input/Output AC                                                                                                                                                            |                 |             |                                |              |              |
| AC input/output nominal power(Grid)                                                                                                                                        | 59.8kW/29.9kW   | 60kW/30kW   | 72kW/36kW                      | 80kW/40kW    | 100kW/50kW   |
| Max. AC input/output apparent power(Grid)                                                                                                                                  | 59.8kVA/29.9kVA | 66kVA/33kVA | 79.2kVA/39.6kVA                | 88kVA/44kVA  | 110kVA/55kVA |
| Max. input/output current(Grid)                                                                                                                                            | 90.6A/45.3A     | 100A/50A    | 120A/60A                       | 133.3A/66.7A | 166.7A/83.3A |
| Max. input current(GEN/AC couple)                                                                                                                                          | 90.6A/45.3A     | 100A/45.5A  | 120A/54.5A                     | 133.3A/60.7A | 166.7A/75.7A |
| Max. continuous AC passthrough current                                                                                                                                     |                 |             | 200A                           |              |              |
| Nominal AC voltage/range <sup>1</sup>                                                                                                                                      |                 |             | 380/400V -15%~10%              |              |              |
| Nominal AC grid frequency/range                                                                                                                                            |                 |             | 50Hz/60Hz, 45-55Hz/55-65Hz     |              |              |
| Power factor(@nominal power)                                                                                                                                               |                 |             | >0.99                          |              |              |
| Adjustable power factor                                                                                                                                                    |                 |             | -1...+1                        |              |              |
| THDi                                                                                                                                                                       |                 |             | <3%                            |              |              |
| AC grid connection type                                                                                                                                                    |                 |             | 3P3W+PE/3P4W+PE                |              |              |
| Backup Power                                                                                                                                                               |                 |             |                                |              |              |
| AC nominal output power                                                                                                                                                    | 29.9kW          | 30kW        | 36kW                           | 40kW         | 50kW         |
| Max. AC apparent power                                                                                                                                                     | 29.9kVA         | 45kVA       | 54kVA                          | 60kVA        | 75kVA        |
| Nominal AC voltage                                                                                                                                                         |                 |             | 220V/230V(L-N), 380V/400V(L-L) |              |              |
| Nominal AC frequency                                                                                                                                                       |                 |             | 50/60Hz                        |              |              |
| Max. output current                                                                                                                                                        | 68.0A           | 68.2A       | 81.8A                          | 91A          | 113.6A       |
| Overload capability                                                                                                                                                        |                 |             | 1.5 times of rated power, 10s  |              |              |
| THDv                                                                                                                                                                       |                 |             | <3% (@Linear full load)        |              |              |
| Switch time                                                                                                                                                                |                 |             | ≤10ms                          |              |              |
| Efficiency                                                                                                                                                                 |                 |             |                                |              |              |
| Max. efficiency                                                                                                                                                            |                 |             | 98.1%                          |              |              |
| Protection Devices                                                                                                                                                         |                 |             |                                |              |              |
| DC reverse polarity protection                                                                                                                                             |                 |             | Yes                            |              |              |
| Battery reverse protection                                                                                                                                                 |                 |             | Yes                            |              |              |
| Insulation resistance monitoring                                                                                                                                           |                 |             | Yes                            |              |              |
| AC/DC surge protection                                                                                                                                                     |                 |             | Type II                        |              |              |
| AC short-circuit protection                                                                                                                                                |                 |             | Yes                            |              |              |
| Ground fault monitoring                                                                                                                                                    |                 |             | Yes                            |              |              |
| Grid monitoring                                                                                                                                                            |                 |             | Yes                            |              |              |
| String monitoring                                                                                                                                                          |                 |             | Yes                            |              |              |
| Anti-islanding protection                                                                                                                                                  |                 |             | Yes                            |              |              |
| Residual-current monitoring unit                                                                                                                                           |                 |             | Yes                            |              |              |
| General Data                                                                                                                                                               |                 |             |                                |              |              |
| Dimensions (W/H/D)                                                                                                                                                         |                 |             | 920/585/320mm                  |              |              |
| Weight                                                                                                                                                                     |                 |             | 90kg                           |              |              |
| Operating temperature range                                                                                                                                                |                 |             | -30°C - 60°C (>50°C derating)  |              |              |
| Noise emission                                                                                                                                                             |                 |             | ≤55dB                          |              |              |
| Altitude                                                                                                                                                                   |                 |             | 4000m                          |              |              |
| Topology                                                                                                                                                                   |                 |             | Transformerless                |              |              |
| Cooling                                                                                                                                                                    |                 |             | Smart air cooling              |              |              |
| Protection degree                                                                                                                                                          |                 |             | IP66                           |              |              |
| Relative humidity                                                                                                                                                          |                 |             | 0~95%                          |              |              |
| Interfaces                                                                                                                                                                 |                 |             |                                |              |              |
| Display                                                                                                                                                                    |                 |             | OLED+LED/APP                   |              |              |
| Interfaces                                                                                                                                                                 |                 |             | RS485/USB/CAN, WIFI/LAN(Opt)   |              |              |
| Warranty: 5 / 10 years                                                                                                                                                     |                 |             | Yes/Opt                        |              |              |
| NRS 097-2-1:2017, EN 50549-1, NC RFG, PSE-2018, PTPIREE-2021, IEC 62116, IEC 61727, G99:2020, VDE 4105, IEC/EN 61000-6-1, IEC/EN 61000-6-3, IEC/EN 62109-1, IEC/EN 62109-2 |                 |             |                                |              |              |

\* 1 The AC voltage range may vary depending on specific country grid standard. All specifications are subject to change without notice.

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| Battery System Data                                      |                                                                               |                  |                  |                  |                  |
|----------------------------------------------------------|-------------------------------------------------------------------------------|------------------|------------------|------------------|------------------|
| Model                                                    | AXE 30.0H-CE1 EU                                                              | AXE 35.0H-CE1 EU | AXE 40.0H-CE1 EU | AXE 50.0H-CE1 EU | AXE 60.0H-CE1 EU |
| Control module                                           | AXE 1000100-C1                                                                |                  |                  |                  |                  |
| Battery module                                           | AXE 5.0H-E1 EU                                                                |                  |                  |                  |                  |
| Battery module energy                                    | 5kWh                                                                          |                  |                  |                  |                  |
| Number of modules in series                              | 6                                                                             | 7                | 8                | 10               | 12               |
| Energy capacity                                          | 30kWh                                                                         | 35kWh            | 40kWh            | 50kWh            | 60kWh            |
| Usable capacity                                          | 27kWh                                                                         | 31.5kWh          | 36kWh            | 45kWh            | 54kWh            |
| Rated output power                                       | 30kW                                                                          | 35kW             | 40kW             | 50kW             | 60kW             |
| Max. output power* <sup>1</sup>                          | 30kW                                                                          | 35kW             | 40kW             | 50kW             | 60kW             |
| Dimension (W/H/D)                                        | 600/2000/800mm                                                                |                  |                  |                  |                  |
| Weight                                                   | ≤0.48t                                                                        | ≤0.53t           | ≤0.58t           | ≤0.7t            | ≤0.8t            |
| Nominal voltage                                          | 307.2V                                                                        | 358.4V           | 409.6V           | 512V             | 614.4V           |
| Operating voltage range                                  | 278.4~340.8V                                                                  | 324.8~397.6V     | 371.2~454.4V     | 464~568V         | 556.8~681.6V     |
| Nominal capacity                                         | 100Ah(@25°C)                                                                  |                  |                  |                  |                  |
| Battery type                                             | Cobalt Free Lithium Iron Phosphate (LFP)                                      |                  |                  |                  |                  |
| Ingress protection                                       | IP20                                                                          |                  |                  |                  |                  |
| Installation                                             | Floor stand                                                                   |                  |                  |                  |                  |
| Operating temperature                                    | -10~50°C                                                                      |                  |                  |                  |                  |
| Relative humidity                                        | 5% ~ 95%                                                                      |                  |                  |                  |                  |
| Cooling                                                  | Air-Cooling                                                                   |                  |                  |                  |                  |
| Warranty* <sup>2</sup>                                   | 5 years                                                                       |                  |                  |                  |                  |
| Noise emission                                           | <60dB                                                                         |                  |                  |                  |                  |
| Maximum elevation                                        | ≤2000m                                                                        |                  |                  |                  |                  |
| Control Module                                           |                                                                               |                  | AXE 1000100-C1   |                  |                  |
| Dimension(W/H/D)                                         | 482/131/580mm                                                                 |                  |                  |                  |                  |
| Weight                                                   | ≤15kg                                                                         |                  |                  |                  |                  |
| Communication port                                       | CAN/RS485/USB                                                                 |                  |                  |                  |                  |
| Operating voltage range                                  | 120V-1000Vdc                                                                  |                  |                  |                  |                  |
| Maximum current                                          | 100A                                                                          |                  |                  |                  |                  |
| Monitoring parameters                                    | SOC, System voltage, current, cell voltage,cell temperature, PCBA temperature |                  |                  |                  |                  |
| Battery Module                                           |                                                                               |                  | AXE 5.0H-E1 EU   |                  |                  |
| Nominal energy                                           | 5kWh                                                                          |                  |                  |                  |                  |
| Nominal voltage                                          | 51.2V                                                                         |                  |                  |                  |                  |
| Pack operating voltage/range                             | 46.4~56.8V                                                                    |                  |                  |                  |                  |
| Battery module dimension (W/H/D)                         | 482/131/580mm                                                                 |                  |                  |                  |                  |
| Battery module weight                                    | ≤47kg                                                                         |                  |                  |                  |                  |
| UN 38.3, IEC 62619, IEC 60730, IEC 62477, CE, RoHS, UKCA |                                                                               |                  |                  |                  |                  |

| System Options* <sup>2</sup>             |          |               |                   |                   |                   |
|------------------------------------------|----------|---------------|-------------------|-------------------|-------------------|
| AXE 30.0~60.0H-1HC-E1*3(92.16~184.32kWh) | √        | √             | √                 | √                 | √                 |
| AXE 30.0~60.0H-1HC-E1*2(61.44~122.88kWh) | √        | √             | √                 | √                 | √                 |
| AXE 60.0H-1HC-E1*1(61.44kWh)             | √        | √             | √                 | √                 | √                 |
| AXE 50.0H-1HC-E1*1(51.2kWh)              | √        | √             | √                 | √                 | √                 |
| AXE 40.0H-1HC-E1*1(40.96kWh)             | √        | √             | √                 | √                 | Limited(Max 40kW) |
| AXE 35.0H-1HC-E1*1(35.84kWh)             | √        | √             | √                 | Limited(Max 35kW) | Limited(Max 35kW) |
| AXE 30.0H-1HC-E1*1(30.72kWh)             | √        | √             | Limited(Max 30kW) | Limited(Max 30kW) | Limited(Max 30kW) |
| Battery System                           | Inverter | WIT 29.9K-XHU | WIT 30K-XHU       | WIT 36K-XHU       | WIT 40K-XHU       |
|                                          |          |               |                   |                   | WIT 50K-XHU       |

\* 1 Depend on the max. battery charge/discharge power of the inverter.

\* 2 Detailed warranty terms should be negotiated with Growatt in the warranty agreement.

\* 3 Labeled with '√' means the system can reach its rated power. Or else, the system output is limited to the charging/discharging power of the battery system(s) connected.

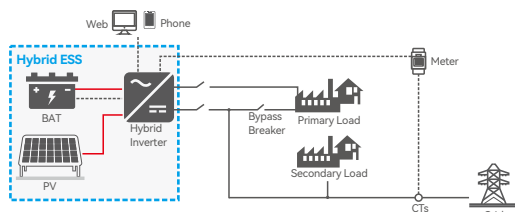
\* Nominal charge/discharge current and power derating will occur related to temperature and SOC.

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# Solutions

## On/Off-Grid System

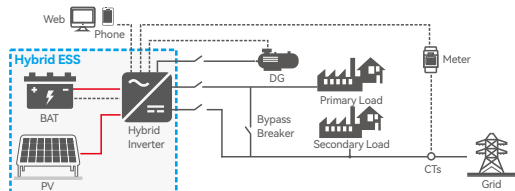


### Single System or Multiple Systems

#### Hybrid ESS:

- WIT 29.9-50K-XHU
- AXE 30.0-60.0H-1HC-E1
- SEM-XA-RM+CTs (for multiple system)
- ShineWiLAN-X2 (for single system)
- TPM-CT-E/C-EU (for single system)
- Battery Terminal Junction Box (optional)

## On/Off-Grid System with DG

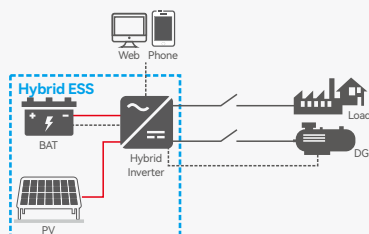


### Single System or Multiple Systems

#### Hybrid ESS:

- WIT 29.9-50K-XHU
- AXE 30.0-60.0H-1HC-E1
- SEM-XA-RM+CTs (for multiple system)
- ShineWiLAN-X2 (for single system)
- TPM-CT-E/C-EU (for single system)

## Off-Grid System

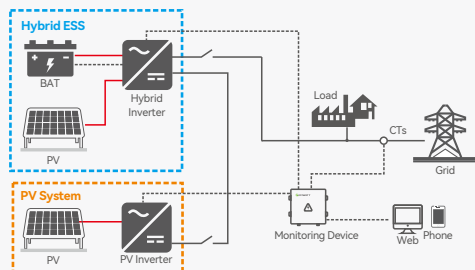


### Single System or Multiple Systems

#### Hybrid ESS:

- WIT 29.9-50K-XHU
- AXE 30.0-60.0H-1HC-E1
- SEM-XA-RM+CTs (for multiple system)
- ShineWiLAN-X2 (for single system)
- Battery Terminal Junction Box (optional)

## On-Grid AC-Coupled System



### Multiple Systems

#### Hybrid ESS:

- WIT 29.9-50K-XHU
- AXE 30.0-60.0H-1HC-E1
- SEM-XA-RM+CTs (for multiple system)
- Battery Terminal Junction Box (optional)

#### PV System:

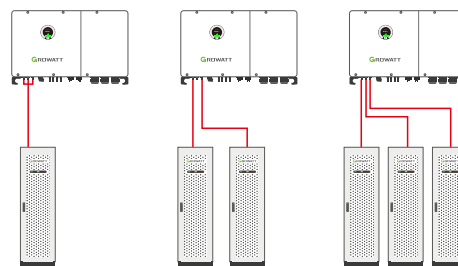
- MAX series PV Inverters
- MID series PV Inverters

## AC Multi-System Parallel Operation



parallel operation of up to 10 inverters\*2

## DC\*1 Flexible Battery Capacity



30~60kWh\*3

60~120kWh

90~180kWh

\*1 DC means battery input capability here.

\*2 For parallel demand over 6 units, please consult with Growatt technical team for more information.

\*3 Each battery input provides up to 55A current. For higher charging/discharging current demand, battery terminal junction box can be purchased.