



Growatt SPH series is perfectly suited to coping with the electricity demand of a private household, as a good residential storage solution, Growatt SPH series can connect PV, battery and grid to one inverter, which is the best choice for new storage system.

Leading - edge Technology

User-friendly

- ▶ Local graphic LCD and four buttons, easier for LCD operation
- ▶ Compact design for easy installation

Reliable

- ▶ IP65 protection degree, better lifetime guarantee
- ▶ Natural cooling, no additional fans
- ▶ Integrated backed-up function, transfer time within 0.5s

Flexible

- ▶ Storage ready solution, you can add battery later
- ▶ Dynamic feed-in control
- ▶ Charging and discharging time and power schedulable

Enhanced safety

- ▶ Online smart service along with system operation
- ▶ Smart battery management ensure battery safety
- ▶ Comprehensive protections for whole system

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| Datasheet | Growatt SPH3000 | Growatt SPH3600 | Growatt SPH4000 | Growatt SPH4600 | Growatt SPH5000 | Growatt SPH6000 |
|--|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| DC input data | | | | | | |
| Max. recommended PV power | 6600W | 6600W | 6600W | 8000W | 8000W | 8000W |
| Start voltage | 150V | 150V | 150V | 150V | 150V | 150V |
| Max. PV voltage | 550V | 550V | 550V | 550V | 550V | 550V |
| PV voltage range | 120V-550V | 120V-550V | 120V-550V | 120V-550V | 120V-550V | 120V-550V |
| MPP voltage range/nominal voltage | 150V-550V /360V | 150V-550V /360V | 150V-550V /360V | 150V-550V /360V | 150V-550V /360V | 150V-550V /360V |
| Max. input current of tracker A/B | 12A/12A | 12A/12A | 12A/12A | 12A/12A | 12A/12A | 12A/12A |
| Number of MPP trackers / strings per MPP tracker | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 |
| AC Output | | | | | | |
| Rated AC output power | 3000W | 3680W | 4000W | 4600W | 4999W | 6000W |
| Max. AC apparent power | 3000VA | 3680VA | 4000VA | 4600VA | 5000VA | 6000VA |
| Max. output current | 16A | 16A | 22A | 22A | 22A | 27A |
| Nominal AC output voltage; range | 230V ; 180Vac-280Vac | 230V ; 180Vac-280Vac | 230V ; 180Vac-280Vac | 230V ; 180Vac-280Vac | 230V ; 180Vac-280Vac | 230V ; 180Vac-280Vac |
| Nominal grid frequency; range | 50,50±5Hz | 50,50±5Hz | 50,50±5Hz | 50,50±5Hz | 50,50±5Hz | 50,50±5Hz |
| Power factor at rated power | 1 | 1 | 1 | 1 | 1 | 1 |
| Displacement power factor | 0.8leading...0.8lagging | 0.8leading...0.8lagging | 0.8leading...0.8lagging | 0.8leading...0.8lagging | 0.8leading...0.8lagging | 0.8leading...0.8lagging |
| THDI | <3% | <3% | <3% | <3% | <3% | <3% |
| AC output power(Backup) | | | | | | |
| Max. output power | 3000W | 3000W | 3000W | 3000W | 3000W | 3000W |
| Rated AC output voltage | 230Vac | 230Vac | 230Vac | 230Vac | 230Vac | 230Vac |
| Rated AC output frequency | 50/60Hz | 50/60Hz | 50/60Hz | 50/60Hz | 50/60Hz | 50/60Hz |
| Automatic switchover time | <0.5S | <0.5S | <0.5S | <0.5S | <0.5S | <0.5S |
| Battery data | | | | | | |
| Battery voltage range | 42~59V | 42~59V | 42~59V | 42~59V | 42~59V | 42~59V |
| Max. charging voltage | 58V | 58V | 58V | 58V | 58V | 58V |
| Max charging and discharging current | 66A | 66A | 66A | 66A | 66A | 66A |
| Max charging and discharging power | 3000W | 3000W | 3000W | 3000W | 3000W | 3000W |
| Battery type | lithium /Lead-acid | lithium /Lead-acid | lithium /Lead-acid | lithium /Lead-acid | lithium /Lead-acid | Lithium /Lead-acid |
| Deep of discharging | 80%DOD/50%DOD | 80%DOD/50%DOD | 80%DOD/50%DOD | 80%DOD/50%DOD | 80%DOD/50%DOD | 80%DOD/50%DOD |
| Capacity of battery | 3~12kWh | 3~12kWh | 3~12kWh | 3~12kWh | 3~12kWh | 3~12kWh |
| Efficiency | | | | | | |
| Max. efficiency | 97.5% | 97.5% | 97.5% | 97.6% | 97.6% | 97.7% |
| Euro European efficiency | 97.0% | 97.0% | 97.0% | 97.1% | 97.1% | 97.1% |
| MPPT efficiency | 99.5% | 99.5% | 99.5% | 99.5% | 99.5% | 99.5% |
| Protection devices | | | | | | |
| DC switch for each MPPT | yes | yes | yes | yes | yes | yes |
| DC reverse polarity protection | yes | yes | yes | yes | yes | yes |
| Battery reverse protection | yes | yes | yes | yes | yes | yes |
| Output over current protection | yes | yes | yes | yes | yes | yes |
| Output over voltage protection | yes | yes | yes | yes | yes | yes |
| Ground fault monitoring | yes | yes | yes | yes | yes | yes |
| Grid monitoring | yes | yes | yes | yes | yes | yes |
| Integrated all - pole sensitive leakage | yes | yes | yes | yes | yes | yes |
| General Data | | | | | | |
| Dimensions (W / H / D) mm | 547*516*170 | 547*516*170 | 547*516*170 | 547*516*170 | 547*516*170 | 547*516*170 |
| Weight | 27KG | 27KG | 27KG | 27KG | 27KG | 27KG |
| Operating temperature range | -25°C ... +60°C | -25°C ... +60°C | -25°C ... +60°C | -25°C ... +60°C | -25°C ... +60°C | -25°C ... +60°C |
| Noise emission (typical) | ≤ 25 dB(A) | ≤ 25 dB(A) | ≤ 25 dB(A) | ≤ 25 dB(A) | ≤ 25 dB(A) | ≤ 25 dB(A) |
| Altitude | 2000m | 2000m | 2000m | 2000m | 2000m | 2000m |
| Self-Consumption | < 3 W | < 3 W | < 3 W | < 3 W | < 3 W | < 3 W |
| Inverter Topology | transformerless | transformerless | transformerless | transformerless | transformerless | transformerless |
| Cooling concept | Natural | Natural | Natural | Natural | Natural | Natural |
| Environmental Protection Rating | IP65 | IP65 | IP65 | IP65 | IP65 | IP65 |
| Relative humidity | 100% | 100% | 100% | 100% | 100% | 100% |
| Features | | | | | | |
| DC connection | MC4/H4(opt) | MC4/H4(opt) | MC4/H4(opt) | MC4/H4(opt) | MC4/H4(opt) | MC4/H4(opt) |
| Interface:RS232/USB/RF/Wi-Fi/LAN | yes /yes /opt/opt/opt | yes /yes /opt/opt/opt | yes /yes /opt/opt/opt | yes /yes /opt/opt/opt | yes /yes /opt/opt/opt | yes /yes /opt/opt/opt |
| Display | LCD | LCD | LCD | LCD | LCD | LCD |
| Warranty: 5 years / 10 years | yes /opt | yes /opt | yes /opt | yes /opt | yes /opt | yes /opt |

Certificates and Approvals

CE, IEC62109, G83/G59, VDE0126-1-1, AS4777, AS/NZS 3100, CEI 0-21, VDE-AR-N4105, VFR 2014, En50438, IEC 61727, IEC 62116