

Grid-Connected PV Inverter

EA33KTLSI / EA40KTLSI



Features

More Energy Generated

- Transformerless design, maximum conversion efficiency up to 98.6%, Europe efficiency up to 98.4%
- Three MPP inputs
- Gain maximum energy generated by shadowed PV cells
- Wide MPPT voltage range (320 ~ 900 V), longer daily power generation time
- Intelligent MPPT algorithm
- The maximum power point tracking is not affected by abrupt change of illumination
- Accurate identification technology of power change
- Static MPPT is stable and accurate
- Wide operating temperature range (-25°C ~ +60°C), continuous power generation at full load in high temperature

High Reliability

- Long lifetime design of film capacitor, 25 years of designed service life for complete machine
- Natural heat dissipation, waterproof, dust resistance, salt fog resistance and corrosion resistance
- Active+passive islanding protection
- Multilayer, step-by-step overcurrent, overvoltage, overtemperature and short-circuit protections for software and hardware
- 6 strings fault monitoring with rapid positioning

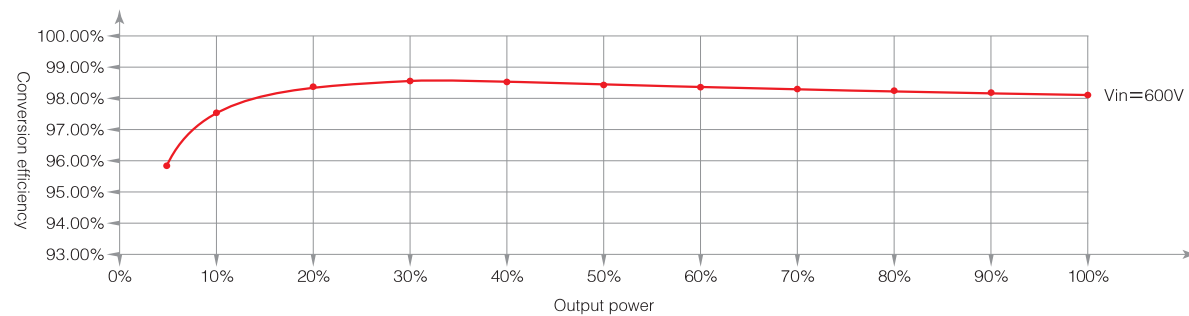
Advanced Control Technology

- Double modulation of three level SPWM and SVPWM, natural and smooth switch
- Adaptive control, adapting to harsh weak power grids environment
- Harmonic current compensation, THD < 1%
- Supporting active and reactive power grid dispatch and SVG function at night
- LVRT function

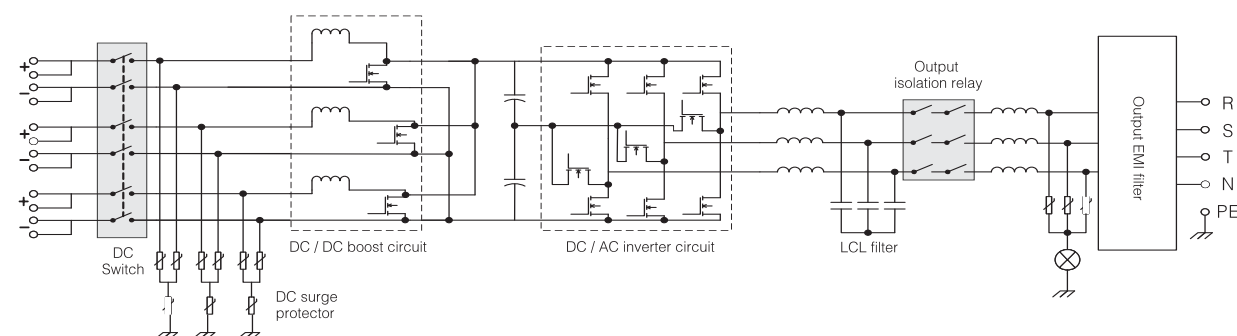
Friendly and Flexible

- Status display with LED indicators, concise interface
- Built-in DC SPD and fuse, no need of DC combiner box, reducing cost for users
- DC shut-off circuit breaker for safe and convenient maintenance operating
- IP 65 protection level for outdoor use
- Wall mounting design, one-step forming of aluminum shell
- Standard RS485 / APP / GPRS / Wi-Fi / Bluetooth communications; Optional PLC viewing the system operation information

Efficiency Curve



Schematic Diagram



Technical Data

| MODEL | EA33KTLSI | EA40KTLSI |
|---|---|------------------------|
| INPUT (DC) | | |
| Max. DC input power | 33 kWp | 40 kWp |
| Max. DC input voltage | 1000 V | |
| Starting voltage | 200 V | |
| Max. DC input current | 3 × 23 A | |
| MPP voltage range | 320 ~ 900 V | |
| Full-load MPP voltage range | 480 ~ 800 V | 580 ~ 850 V |
| Number of MPP inputs | 3 | |
| Rated DC input voltage | 620 V | 680 V |
| DC terminals | 2 × 6 | |
| MPPT efficiency (static) | > 99.9% | |
| Withstanding voltage & insulation for DC input against the enclosure | Basic insulation 3000 Vdc / 1 min | |
| OUTPUT (AC) | | |
| Rated output power | 30 kW | 36 kW |
| Max. apparent power | 33 kVA | 40 kVA |
| Rated output voltage | 3 × 380 / 400 / 415 Vac + N + PE | 3 × 277 / 480 Vac + PE |
| Rated output current | 3 × 45.9 A | |
| Max. allowable output current | 3 × 48 A | |
| Rated frequency | 50 Hz / 60 Hz | |
| DC component | < 0.5% (rated current) | |
| THD | < 3% (rated power) | |
| Power factor | 0.8 leading ~ 0.8 lagging | |
| Withstanding voltage & insulation for AC output sides against the enclosure | Basic insulation 3000 Vdc / 1 min | |
| EFFICIENCY | | |
| Max. inverter efficiency | 98.7% | 98.9% |
| Europe efficiency | 98.4% | 98.5% |
| PROTECTIONS | | |
| Input reverse connection protection | Yes | |
| DC input switch | Yes | |
| DC overvoltage and overload protection | Yes | |
| Output AC short-circuit protection | Yes | |
| AC overload, overcurrent limitation and protection | Yes | |
| Grid over / under-voltage and unbalanced protection | Yes | |
| Grid over / under-frequency protection | Yes | |
| Leakage protection | Yes | |
| Lightning protection | Yes | |
| Islanding protection | Active and passive protection | |
| DC surge protection | Yes | |
| AC surge protection | Yes | |
| Insulation resistance detection protection | Yes | |
| CERTIFICATES AND APPROVALS | | |
| Certificates | VDE / TUV / CE / CQC | |
| Grid-connected standard | TUV / VDE-AR-N-4105 / G59 / IEC 61727:2004 / IEC 62116:2014 / IEC 61683:1999 | |
| EMC / safety | EN 61000-6-2, EN61000-6-3, EN 61000-3-2, EN 61000-3-3, EN 61000-3-11, EN 61000-3-12, EN / IEC 62109-1, EN / IEC 62109-2 | |
| DISPLAY AND COMMUNICATIONS | | |
| Display | LED / LCD / APP | LED / APP |
| RS485 | Yes | |
| USB | Yes | |
| PLC | Optional | |
| APP and Bluetooth | Yes | |
| OTHERS | | |
| Standby loss | < 15 W | |
| Topology | Transformerless | |
| MTBF | 40000 h | |
| Warranty | 5 years (standard), 10 / 15 / 20 / 25 years (optional) | |
| Operating temperature | -25°C ~ +60°C | |
| Cooling | Natural cooling | |
| Relative humidity | 0 ~ 100% non-condensing | |
| IP rating | IP 65 | |
| Max. operating altitude | 3000 m | |
| Dimensions (W × D × H) (mm) | 580 × 255 × 820 | |
| Packaged dimensions (W × D × H) (mm) | 690 × 935 × 365 | |
| Net weight (kg) | 68 | |
| Gross weight (kg) | 70 | |

Disclaimer:
 • These data in this document are tested under specified conditions. It may result in difference between actual results and these data due to some uncertain factors. The statement about this product is for reference only. It makes no representation or warranty.
 • All specifications subject to change without notice.