



# String Inverter (8-23kW)

## SUN2000-8/10/12/15/17/20/23KTL

### Smart

- Maximum of 3 MPPT for versatile adaption to different module types or quantities built up with different alignments
- Up to 6 strings intelligent monitoring and fault detection
- RS 485 and USB ports for connectivity and data management
- Local graphic LCD and remote monitoring

### Efficient

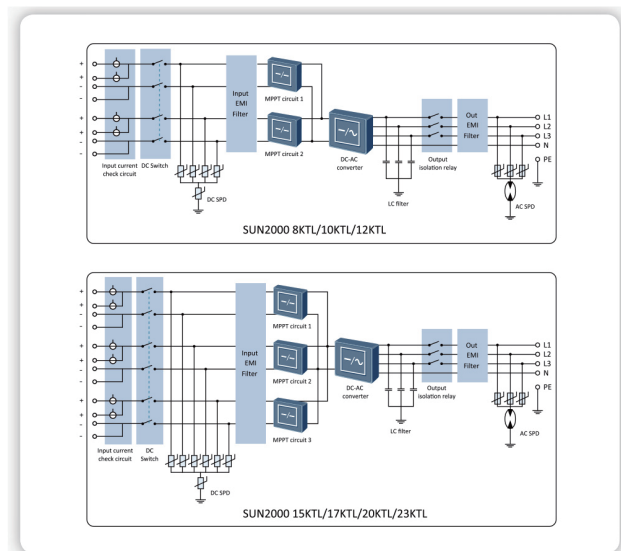
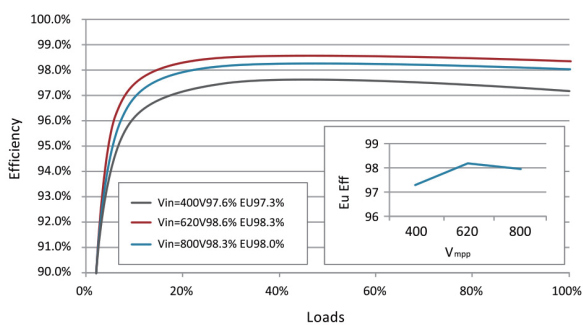
- SUN2000-20KTL Photon test result: A+/A+ at medium and high irradiation
- Maximum efficiency 98.6%
- European efficiency 98.3%

### Safe

- Type II DC and AC surge protection devices integrated
- Noise  $\leq$  29dB, Class-B electromagnetic radiation
- RCD protection function

### Reliable

- Warranty up to 25 years
- No need of external fan with natural cooling technology
- Outdoor application of IP65





Technical Specifications	SUN2000-8KTL	SUN2000-10KTL	SUN2000-12KTL	SUN2000-15KTL	SUN2000-17KTL	SUN2000-20KTL	SUN2000-23KTL
<b>Efficiency</b>							
Max. efficiency	98.5%	98.5%	98.5%	98.6%	98.6%	98.6%	98.6%
European efficiency	98.0%	98.0%	98.0%	98.3%	98.3%	98.3%	98.3%
<b>Input</b>							
Max. DC input	9,100 W	11,400 W	13,700 W	17,100 W	19,200 W	22,500 W	23,600 W
Max. input voltage	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V
Max. input current per MPPT	18 A	18 A	18 A	18 A	18 A	18 A	18 A
Min. operating voltage	200 V	200 V	200 V	200 V	200 V	200 V	200 V
MPP voltage range	320 V - 800 V	320 V - 800 V	380 V - 800 V	400 V - 800 V	400 V - 800 V	480 V - 800 V	480 V - 800 V
Rated input voltage	620 V	620 V	620 V	620 V	620 V	620 V	620 V
Max. number of inputs	4	4	4	6	6	6	6
Number of MPP trackers	2	2	2	3	3	3	3
<b>Output</b>							
Rated output power	8,000 VA	10,000 VA	12,000 VA	15,000 VA	17,000 VA	20,000 VA	23,000 VA
Max. output power	8,800 VA	11,000 VA	13,200 VA	16,500 VA	18,700 VA	22,000 VA	23,000 VA
Rated output voltage	3n230V/400V+N+PE 3n220V/380V+N+PE	3n230V/400V+N+PE 3n220V/380V+N+PE	3n230V/400V+N+PE 3n220V/380V+N+PE	3n230V/400V+N+PE 3n220V/380V+N+PE	3n230V/400V+N+PE 3n220V/380V+N+PE	3n230V/400V+N+PE 3n220V/380V+N+PE	3n230V/400V+N+PE 3n220V/380V+N+PE
AC power frequency	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz
Max. output current	12.8 A	16 A	19.2 A	24 A	27.2 A	32 A	33.5 A
Adjustable power factor	0.8 leading ... 0.8 lagging	0.8 leading ... 0.8 lagging	0.8 leading ... 0.8 lagging	0.8 leading ... 0.8 lagging	0.8 leading ... 0.8 lagging	0.8 leading ... 0.8 lagging	0.8 leading ... 0.8 lagging
Max. total harmonic distortion	<3%	<3%	<3%	<3%	<3%	<3%	<3%
<b>Protection</b>							
Input-side disconnection protection	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Anti-Islanding protection	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AC over current protection	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DC reverse-polarity protection	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PV array string fault monitoring	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DC surge arresters	Type II	Type II	Type II	Type II	Type II	Type II	Type II
AC surge arresters	Type II	Type II	Type II	Type II	Type II	Type II	Type II
Insulation monitoring	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Residual current detection	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Display and Communication</b>							
Display	Graphic LCD	Graphic LCD	Graphic LCD	Graphic LCD	Graphic LCD	Graphic LCD	Graphic LCD
RS485	Yes	Yes	Yes	Yes	Yes	Yes	Yes
USB	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>General Data</b>							
Dimensions(W/H/D)	520 x 610 x 255 mm (20.5 x 24.0 x 10.0 in.)	520 x 610 x 255 mm (20.5 x 24.0 x 10.0 in.)	520 x 610 x 255 mm (20.5 x 24.0 x 10.0 in.)	520 x 610 x 255 mm (20.5 x 24.0 x 10.0 in.)	520 x 610 x 255 mm (20.5 x 24.0 x 10.0 in.)	520 x 610 x 255 mm (20.5 x 24.0 x 10.0 in.)	520 x 610 x 255 mm (20.5 x 24.0 x 10.0 in.)
Weight	40 kg	40 kg	40 kg	48 kg	48 kg	48 kg	48 kg
Operating temperature range	-25 °C to +60 °C (-13 °F to +140 °F)	-25 °C to +60 °C (-13 °F to +140 °F)	-25 °C to +60 °C (-13 °F to +140 °F)	-25 °C to +60 °C (-13 °F to +140 °F)	-25 °C to +60 °C (-13 °F to +140 °F)	-25 °C to +60 °C (-13 °F to +140 °F)	-25 °C to +60 °C (-13 °F to +140 °F)
Cooling	Natural convection	Natural convection	Natural convection	Natural convection	Natural convection	Natural convection	Natural convection
Operating altitude	3000 m	3000 m	3000 m	3000 m	3000 m	3000 m	3000 m
Relative humidity (non-condensing)	0 - 100%	0 - 100%	0 - 100%	0 - 100%	0 - 100%	0 - 100%	0 - 100%
DC connector	Amphenol H4	Amphenol H4	Amphenol H4	Amphenol H4	Amphenol H4	Amphenol H4	Amphenol H4
AC connector	Amphenol C16/3	Amphenol C16/3	Amphenol C16/3	Amphenol C16/3	Amphenol C16/3	Amphenol C16/3	Amphenol C16/3
Degree of protection	IP65	IP65	IP65	IP65	IP65	IP65	IP65
Self-consumption at night	< 1 W	< 1 W	< 1 W	< 1 W	< 1 W	< 1 W	< 1 W
Topology	Transformerless	Transformerless	Transformerless	Transformerless	Transformerless	Transformerless	Transformerless
Noise emission	≤ 29 dB	≤ 29 dB	≤ 29 dB	≤ 29 dB	≤ 29 dB	≤ 29 dB	≤ 29 dB
Warranty	5 years 10/15/20/25 years optional	5 years 10/15/20/25 years optional	5 years 10/15/20/25 years optional	5 years 10/15/20/25 years optional	5 years 10/15/20/25 years optional	5 years 10/15/20/25 years optional	5 years 10/15/20/25 years optional
<b>Standards Compliance</b>							
Safety/EMC	EN61000-6-2, EN61000-6-3, EN61000-3-2, EN61000-3-3, EN61000-3-11, EN61000-3-12, EN/IEC62109-1, EN/IEC62109-2						
Grid Code	VDE-AR-N4105, VDE0126-1-1, BDEW 2008, Enel-Guideline, CEI 0-21, G59/2, G83/1-1, AS4777, CGC/GF004:2011, IEC61727, IEC62116, RD1669						