Engineering & ConStruction		GRE CODE **GRE.EEC.R.99.CL.P.08602.12.114.00**
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TITLE*:** ***AVAILABLE LANGUAGE: **EN**

DATASHEET

Inverter

File: **GRE.EEC.R.99.CL.P.08602.12.114.00**

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REV.	***DATE***	***DESCRIPTION***	***PREPARED***	***VERIFIED***	***APPROVED***

GRE VALIDATION		
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COLLABORATORS	VERIFIED BY	VALIDATED BY

PROJECT / PLANT	***GRE CODE***																			
	GROUP	*FUNCION*	*TYPE*	*ISSUER*		*COUNTRY*		*TEC*	*PLANT*					*SYSTEM*		*PROGRESSIVE*		*REVISION*	
El Manzano **Chile**	GRE	EEC	R	9	9	C	L	P	0	8	6	0	2	1	2	1	1	4	0	0

CLASSIFICATION	**FOR VALIDATION**	***UTILIZATION SCOPE***	**ISSUED FOR CONSTRUCTION**

INDEX

1. REFERENCES

- GRE.EEC.S.27.XX.A.00000.00.156.08_TS-PV_Power_Plant.
- Physical Dimensions, Schematic and Layout (Protections included):
  - GRE.EEC.H.99.CL.P.08602.12.103.00 *Inverter* – Functional diagram and terminal blocks.
  - GRE.EEC.H.99.CL.P.08602.12.104.00 *Inverter* – External Wiring and Mechanical Diagram.
- Grounding:
  - GRE.EEC.D.99.CL.P.08602.12.107.00 *Inverter* - Grounding system layout and detailes
- SCADA:
  - GRE.EEC.R.99.CL.P.08602.12.108.00 Control System Network Architecture.
  - GRE.EEC.L.99.CL.P.08602.00.059.00 *Signal List ofIED*
- Operation Principles:
  - SUN2000-(196KTL-H3, 200KTL-H3, 215KTL-H3) User Manual documentation.
- Inverter Appearance:
  - GRE.EEC.H.99.CL.P.08602.12.104.00 *Inverter* – External Wiring and Mechanical Diagram.
  - SUN2000-215KTL-H3 Datasheet.
- Energy Monitoring:
  - GRE.EEC.L.99.CL.P.08602.00.059.00 *Signal List ofIED*
- Main Characteristics – DC Input & DC Input Protection / AC Output & AC Output Protection
  - GRE.EEC.S.99.CL.P.08602.12.109.00 *Inverter - Technical Specifications (according to EGP specification).*
- Inverter Characteristics complying Chilean Grid Code (NTSyCS)
  - GRE.EEC.S.99.CL.P.08602.12.109.00 *Inverter - Technical Specifications (according to EGP specification).*
- SUN2000-215KTL-H3 Harmonic Content.
  - GRE.EEC.S.99.CL.P.08602.12.109.00 *Inverter - Technical Specifications (according to EGP specification).*
- SUN2000-215KTL-H3 Characteristics Curves
  - GRE.EEC.S.99.CL.P.08602.12.109.00 *Inverter - Technical Specifications (according to EGP specification).*
- Output function:
  - GRE.EEC.S.99.CL.P.08602.12.109.00 *Inverter - Technical Specifications (according to EGP specification).*
  - GRE.EEC.R.99.CL.P.08602.12.126.00 *Inverter adjusted parameters report*

2. MAIN CHARACTERISTICS

- AC Electrical System Type: IT System.
- Auxiliary Consumption is taken from DC side, so it is already considered into the inverter efficiency curve.
- Stand by/Night consumption is 3.3 W.
- Static MPPT efficiency: 99.9% (>30% power load).
- Dynamic MPPT efficiency: 99%.
- Storage Temperature: -40°C to 70°C.
- Noise Level: Up to 65 dBA.

3. DC INPUT

- Max. DC Voltage Ripple: +.0.5%
- Reverse Polarity Protection is included.

4. AC OUTPUT

- According with IEC 60909, short-circuit contribution is the following:
  - I_K = 155.2 A.
  - I_P = 482.8 A.

- I''_K = 232.8 A.
- Maximum current unbalancement: 2%

5. OTHERS

- Inverter AC waveform is made by 3 level PWM modulation adding a switching frequency of 18 [kHz].
- Shut off temperature is about 110°C on IGBT side. One temperature sensor is located in each IGBT module. After this, the relays installed into AC side of inverter will trip.
- Q at night feature is included as standard in SUN2000-185KTL-H1 inverter. More information can be founded into the document GRE.EEC.S.99.CL.P.08602.12.109.00 Inverter - Technical Specifications (according to EGP specification).

6. SUN2000-215KTL-H3 INVERTER DATASHEET (ANNEX).

SUN2000-215KTL-H3
Smart String Inverter

100A
Per MPPT

99.0%
Max. Efficiency

String-Smart
Switch

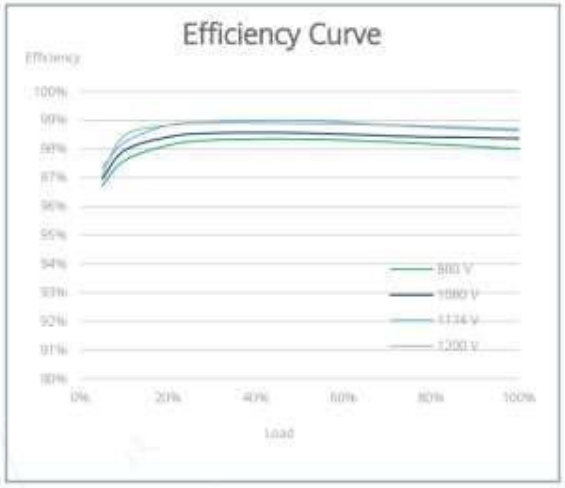
Smart I-V Curve
Diagnosis Supported

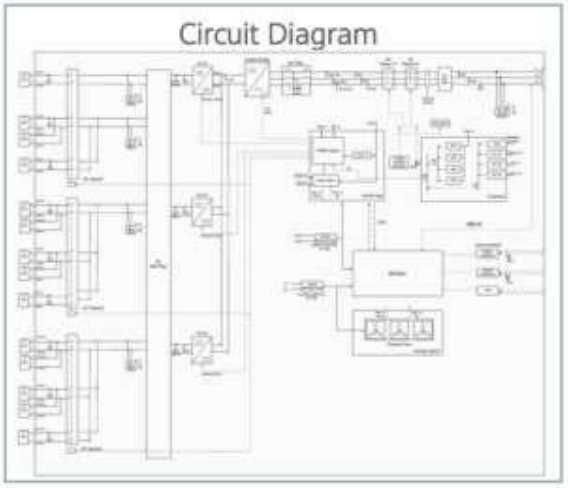
MBUS
Supported

Fuse Free
Design

Surge Arresters for
DC & AC

IP66
Protection





SUN2000-215KTL-H3

Technical Specifications

Efficiency	
Max. Efficiency	≥99.0%
European Efficiency	≥98.6%
Input	
Max. Input Voltage	1,500 V
Number of MPP Trackers	3
Max. Current per MPPT	100A/100A/100A
Max. PV Inputs per MPPT	4/5/5
Start Voltage	550 V
MPPT Operating Voltage Range	500 V – 1,500 V
Nominal Input Voltage	1,080 V
Output	
Nominal AC Active Power	200,000 W
Nominal Output Voltage	800 V, 3W + PE
Rated AC Grid Frequency	50 Hz / 60 Hz
Nominal Output Current	144.4 A
Adjustable Power Factor Range	0.8 LG ... 0.8 LD
Max. Total Harmonic Distortion	< 1%
Protection	
Input-side Disconnection Device	Yes
Anti-islanding Protection	Yes
AC Overcurrent Protection	Yes
DC Reverse-polarity Protection	Yes
PV-array String Fault Monitoring	Yes
DC Surge Arrester	Type II
AC Surge Arrester	Type II
DC Insulation Resistance Detection	Yes
Residual Current Monitoring Unit	Yes
Communication	
Display	LED Indicators, WLAN + APP
USB	Yes
MBUS	Yes
RS485	Yes
General	
Dimensions (W x H x D)	1,035 x 700 x 365 mm (40.7 x 27.6 x 14.4 inch)
Weight (with mounting plate)	≤86 kg (191.8 lb.)
Operating Temperature Range	-25°C – 60°C (-13°F – 140°F)
Cooling Method	Smart Air Cooling
Max. Operating Altitude without Derating	4,000 m (13,123 ft.)
Relative Humidity	0 – 100%
DC Connector	Staubli MC4 EVO2
AC Connector	Waterproof Connector + OT/DT Terminal
Protection Degree	IP66
Topology	Transformerless