Life Is On | Schneider Electric

Re-defining the utility-scale inverter

Conext SmartGen™

We believe in green energy—in the ability to meet and contribute to growing power demand while supporting a smart grid that serves a smart society.

Solution at a glance

Far more than an inverter, the Conext SmartGen™ is the new paradigm for large-scale renewable power installations. It combines the best in power conversion technology with the Industrial Internet of Things to provide a better Levelized Cost of Energy.

- **More power generation and longer service life:** 30 year service life and conversion efficiency of 98.8% peak, 98.5% EU
- **Lower OPEX:** True Design for Service™ and cloud-connectivity for faster resolution of service events
- **Higher system availability:** reduce downtime with digital service support tools and advanced remote troubleshooting
- **Deploy everywhere:** designed and tested for any environment, NA and IEC codes and standards, and supported by a worldwide field service network
- **Secure:** backed by a bankable company with 180 years of history and two decades of experience in solar inverters

Global specialist in energy management

180 years of history

142,000 total workforce in 100+ countries

5% of Group revenues devoted to annual R&D spend

True Bankability with Schneider Electric

€24.7 billion in consolidated revenue

€3.7 billion adjusted EBITDA

More than **10 GW** of Schneider Electric utility-scale inverters installed worldwide

Reliable and cloud-connected

Conext SmartGen™

Lifetime reliability

Through the most stringent selection and qualification of components, the Conext SmartGen™ is designed to have a 30-year service life. With ten years more power generation from the same power plant infrastructure compared to industry norms, Conext SmartGen inverters help reduce the cost of electricity.

The most demanding reliability and environmental testing methodology, developed through 20 years experience in the PV industry, has been applied to ensure that the Conext SmartGen™ maintains adequate operating margins over its entire lifetime, in even the most severe environments.

- Built to last in the most severe environments (desert, tropical, continental, sea shore, high seismic)
- Greater uptime for increased power generation

Desert

Ocean

Continental

Tropical

True Design for Service™

Ease of service was the driving force behind big and small decisions that shaped the Conext SmartGen™.

From a comprehensive suite of diagnostics, troubleshooting and maintenance tools to quickly replaceable sub-assemblies, every step of servicing has been meticulously optimized to minimize operating expenses.

- Designed for one hour mean time to repair and first time fix rate >97%
- Advanced configuration and service tool with local and remote functionality
- Easy access to all field replaceable systems and components

Optimized maintenance services

Reduce downtime with condition-based maintenance services and remote diagnostics.

- Cloud-based analytics and service support
- Advanced remote troubleshooting for increased service efficiency

Local and remote interface – the Conext Viewer™

The most advanced inverter interface yet, providing local Wi-Fi and Ethernet connectivity as well as remote data access to inverter operational data.

Advanced troubleshooting, lifetime service logging, online service documentation and help files—all the power and capabilities of the digital world supporting your Conext SmartGen™ inverter.

- Reduced learning curve that increases user satisfaction and minimizes risks
- Incorporates help tools that enable service personnel to do fast and accurate troubleshooting

Product options

Conext SmartGen™

IEC and NA versions

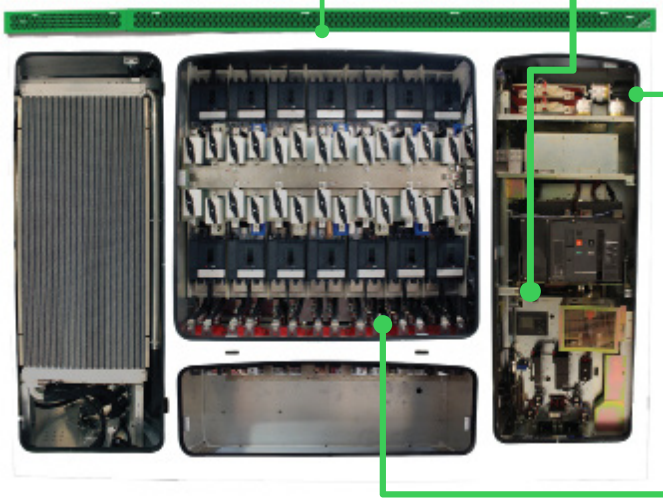
- NA version includes optional NEC compliant DC disconnect switches

→ Reduced footprint
→ Easier fuse servicing

Multiple grounding options

- Floating with permanent insulation monitoring
- Negative grounding with pre-connection insulation check, and RCD

→ Enhanced personnel and equipment safety



Class I surge arrestors

- Selectable on DC and AC mains

→ Enhanced protection against lightning strikes

Integrated communications and control panel

- Modbus RTU and Modbus TCP
- Optional communications hub for all skid mounted and field equipment
- Copper or fiber optic switch options available for the communications hub

→ Allows for integrated monitoring and control hardware

Auxiliary power distribution panel

- Selection of auxiliary AC voltage (100/110/120/200/220/230/240V)
- Input circuit breaker with under voltage release
- Auxiliary consumption metering

→ Elimination of external low voltage panel

Varied DC input configurations

- 10 to 14 inputs with 160 to 400A fusing
- Input channel current monitoring

→ Wide range of overpaneling ratio

Product specifications

Conext SmartGen™ IEC Model

Device short name	CS1800	CS2000	CS2200	CS2400
Electrical specifications				
AC				
Nominal output power at 40°C	1800 kW / 2000 kVA	2000 kW / 2000 kVA	2200 kW / 2200 kVA	2200 kW / 2400 kVA
Nominal output power at 50°C	1800 kW / 2000 kVA	2000 kW / 2000 kVA	2060 kW / 2060 kVA	2060 kW
Nominal output voltage	575 V	575 V	600 V	600 V
Nominal frequency	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Max. output current	2008 A	2008 A	2117 A	2310 A
Continuous operation output voltage range	+/- 20% (460 - 690 V)	+/- 20% (460 - 690 V)	+15% / -20% (480 - 690 V)	+15% / -20% (480 - 690 V)
Continuous operation frequency range	50 / 60 Hz +/- 10%	50 / 60 Hz +/- 10%	50 / 60 Hz +/- 10%	50 / 60 Hz +/- 10%
Power factor[1]	0 to 1 lead / lag	0 to 1 lead / lag	0 to 1 lead / lag	0 to 1 lead / lag
Harmonic distortion (THDI)	< 3% at rated power	< 3% at rated power	< 3% at rated power	< 3% at rated power
Peak efficiency	98.8%	98.8%	98.8%	98.4%
Weighted efficiency (EU weightings)[2]	98.5%	98.5%	98.5%	98.5%
Weighted efficiency (CEC)[3]	98.5%	98.5%	98.5%	98.5%
DC				
Max. input voltage range, MPPT[4]	865 - 1500 V	865 - 1500 V	905 - 1500 V	900 - 1500 V
Max. input voltage, open circuit	1500 V	1500 V	1500 V	1500 V
Max. input operating current	2123 A	2359 A	2481 A	2481 A
DC breaker short-circuit current rating	6000 A	6000 A	6000 A	6000 A
Max. rated short circuit current	With max. 14 DC inputs x 400 A fuse rating: 3584 A STC, 4480 A absolute max.			
DC combiner	Integrated	Integrated	Integrated	Integrated
Number of DC inputs	10 to 14	10 to 14	10 to 14	10 to 14
DC fuse rating	160 A - 400 A	160 A - 400 A	160 A - 400 A	160 A - 400 A
General specifications				
Service life[5]	30 years			
Power consumption, night time[6]	< 295 W			
Degree of protection[7]	Outdoor (Type 4X / IP65)			
Enclosure	Aluminium			
Seismic rating	IEEE 693-2005 qualification to high seismic performance levels (ZPA = 1.0g 2% damping) IBC ICC-ES AC156-2012 certification to a SDS equal to 1.78g and with a z/h equal to 0 and IP=1.5 UBC Zone 4			
Product weight (approx.)	2800 kg (6160 lb)			
Product dimensions (H x W x D)	220 x 300 x 130 cm (86.6 x 118.1 x 51.2 in)			
Ambient air temperature for operation	-25°C to 60°C (-13°F to 140°F). Optional -30°C rating (-22°F)			
Operating altitude	2,000 m without derating, up to 4,000 m with derating			
Relative humidity	5% to 100% condensing			
Features				
Type of cooling	Temperature-dependent low pressure closed-loop liquid cooling			
Graphic user interface	Conext™ Viewer application for tablet and PC			
External communication interface	Modbus/RS485 standard, Modbus/TCP			
AC/DC disconnect	Load-break-rated DC and AC circuit breaker standard			
Ground fault detection/interruption	PV insulation monitoring and RCD (on grounded PV configurations)			
Options				
	Grounding (negative / floating), string current monitoring, class I surge arresters			
Standards				
Safety standards	IEC version: IEC62109-1, and -2 / NA version: UL 1741, CSA 107.1			
EMC standards	IEC/EN 61000-6-2 and -6-4, EN 55011:2016, CISPR 11 Ed. 6, FCC Class A			
Grid interconnection	BDEW, CEI 0-16, French Decree 23-Apr-2008, IEC61727, PEA and more			

[1] Contact Schneider Electric for derating information.
[2] Auxiliary self consumption not included, measured at minimum Vdc.
[3] Auxiliary self consumption included.
[4] Contact Schneider Electric for derating information. MPPT for Power Factor 1.
[5] With preventative maintenance.
[6] 295 W maximum is with all communication hub options.
[7] Heat exchanger is IP20 with IP65 components.