

SmartPV APIS UL

APIS1200-UL / APIS1500-UL / APIS1750-UL

Optimised Designs for the USA Market

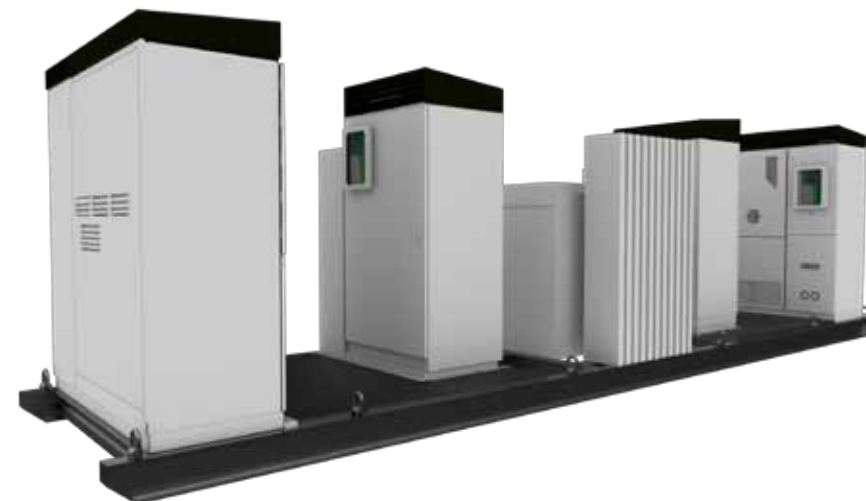
APIS UL-i20



Mechanical characteristics	
Inverter Power Module dimensions (H / W / D)	2100 x 2000 x 780 mm / 82,67 x 78,74 x 30,70 in
Inverter Disconnection Module dimensions (H / W / D)	2100 x 1100 x 750 mm / 82,67 x 43,3 x 29,52 in
Container dimensions (H / W / D)	2900 x 6000 X 2440 mm / 20' x 8' x 9'6"
Weight (5)	8396 kg / 18510 lbs
Maximum fresh air consumption	8000 (2 x 4000) m ³ /h
Environment rating	NEMA 3R, IP54
Medium Voltage Stage	
Transformer	Pad Mounted
Protections	2 x GP Tech GPDM -I



APIS UL-skd



Mechanical characteristics	
Inverter Power Module dimensions (H / W / D)	2300 x 2000 x 845 mm / 90,55 x 78,74 x 30,70 in
Inverter Disconnection Module dimensions (H / W / D)	2162 x 1100 x 750 mm / 85,12 x 43,3 x 29,52 in
Skid dimensions (H / W / D)	2522 X 9000 x 2100 mm / 99,3 x 354,4 x 82,7 in
Weight (5)	12000 kg / 26455 lbs
Maximum fresh air consumption	12000 (2 x 6000) m ³ /h
Environment rating	NEMA 3R, IP54
Medium Voltage Stage	
Transformer	Pad Mounted
Protections	2 x GP Tech GPDM -O



	APIS 1200-UL	APIS 1500-UL	APIS 1750-UL
DC Input			
Voltage range (MPPT) ⁽¹⁾	395 - 825 Vdc	495 - 825 Vdc	585 - 825 Vdc
MPPT Inputs	2		
Maximum DC voltage	1000 Vdc		
Maximum input current	3060 A		
DC inputs (optional external box)	2 0-40 (2x10 - 2x20). Protected by fuses		
AC Output			
Transformer output. Medium AC voltage ⁽²⁾	24 kV		
Frequency rated	50/60 Hz		
Frequency operation range	47 - 63 Hz		
Rated AC power @ 50°C	1,12 (2 x 0,56) MVA	1,4 (2 x 0,7) MVA	1,66 (2 x 0,83) MVA
Rated AC power @ 25°C	1,2 (2 x 0,6) MVA	1,5 (2 x 0,75) MVA	1,78 (2 x 0,89) MVA
Rated AC power @ 50°C and PF of 0,9	1,0 (1 x 0,5) MW	1,26 (2 x 0,63) MW	1,5 (2 x 0,75) MW
Inverter output. Maximum output current	2900 (2 x 1450) A		
Total Harmonic Distortion (THD)	<3%		
Power Factor at rated power	adjustable (0.9 inductive ... 0.9 capacitive)		
Galvanic insulation	Yes		
Efficiency			
Maximum European efficiency ⁽²⁾	97,29%	97,72%	98,00%
Maximum CEC efficiency ⁽³⁾	97,18%	97,63%	97,92%
Inverter self-consumption at night	<=400 (2 x 200) W		
Inverter self-consumption in operation ⁽⁴⁾	<= 6 (2 x 3) kVA		
Ambient conditions			
Operation temperature	-4°F / 140°F (-20°C / 60°C)		
Operation ambient temperature (without derating)	-4°F / 122°F (-20°C / 50°C)		
Storage and transport temperature	-22°F / 149°F (-30°C / 65°C)		
Maximum relative humidity	95% without condensation		
Maximum altitude above the sea level	3000 m		
AC Protections			
Inverter output AC overvoltage protection	Class II		
Anti-islanding	Yes		
Grid voltage variations	Yes		
Frequency failures	Yes		
Asymmetric currents	Yes		
Low Voltage Ride Through (LVRT) Capability	Yes		
DC Protections			
DC overvoltage protection	Class II		
Inverter shutting down on overload error	Yes		
PV-field isolation detector	Yes		
Panel Disconnection Capability	Yes. Contactor		
Other Protections			
Breaker protections of auxiliary systems	Yes		
Auxiliary systems overvoltage protection	Yes		
Power Control Features			
Reactive control by external signal	Yes		
Reactive control by internal configuration	Yes. Timetable PF configuration or voltage dependent function		
Reactive injection in LVRT	Yes. Three different operation modes		
Over frequency active power response	Yes. Configurable droop		
Ramp rate control	Yes. Under irradiance value restriction		
External power limitation	Yes. Control allows continuous limit values		
Interfaces			
Touch-HMI	Yes		
MODBUS RTU communication protocol	Yes		
Field bus connection with RS485	Yes		
Luminous indicator, start/stop control and emergency stop	Yes		
Remote monitoring system, with GSM/GPRS modem	Optional		
Legal standards			
UL 1741 ⁽⁶⁾	Yes		
United States - UL Listing Mark	Yes		
Canada - cUL Listing Mark	Yes		
IEEE 1547	Yes		
CSI/CEC Performance Testing (California)	Yes		
IEC 62109-1, IEC 62109-2	Yes		

Notes

1. At VAC, nom and cosφ= 1
2. Inverter self-consumption is not considered in the efficiency measurement. Medium voltage transformer is not considered in the efficiency measurement (Typical transformer efficiency > 99%)
3. Self-consumption at rated operation
4. Self-consumption in inverters is not considered in the efficiency measurement. A 33kV/240-300-355-430V transformer is considered
5. Estimated. Customized MV transformer configuration
6. For UL certification, please, consult special sales conditions