

SOLO 500 Series | 500 kW CENTRAL INVERTER



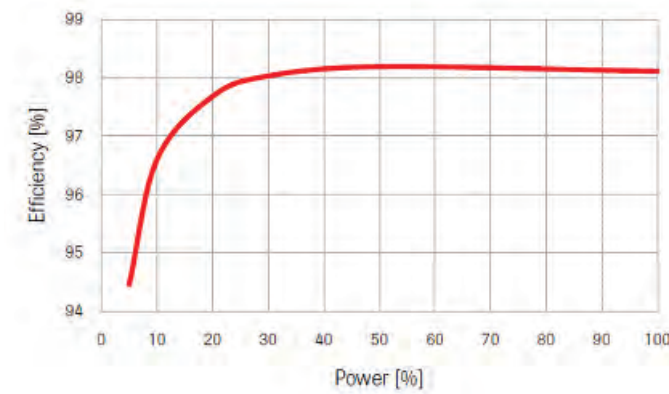
FEATURES

- Wide PV voltage input range: 500V to 1200V *
- PV Inverter with high efficiency: 98.4%
- Minimal heat dissipation in the installation room
- Extended temperature range: -25°C to +55°C
- High elevation up to 3500m above sea level available
- Communication interface: EIA-485, Ethernet, SCADA (Modbus RTU and TCP/IP), GSM, PROFIBUS, or line modem
- Customer tailored service and maintenance contract
- All PV grounding concepts possible
- Power limitation due to commands by grid operator
- Liquid cooled, small footprint, lightweight

* Note: Maximum PV voltage input in US is 1000V

EFFICIENCY

Efficiency of SOLO 500



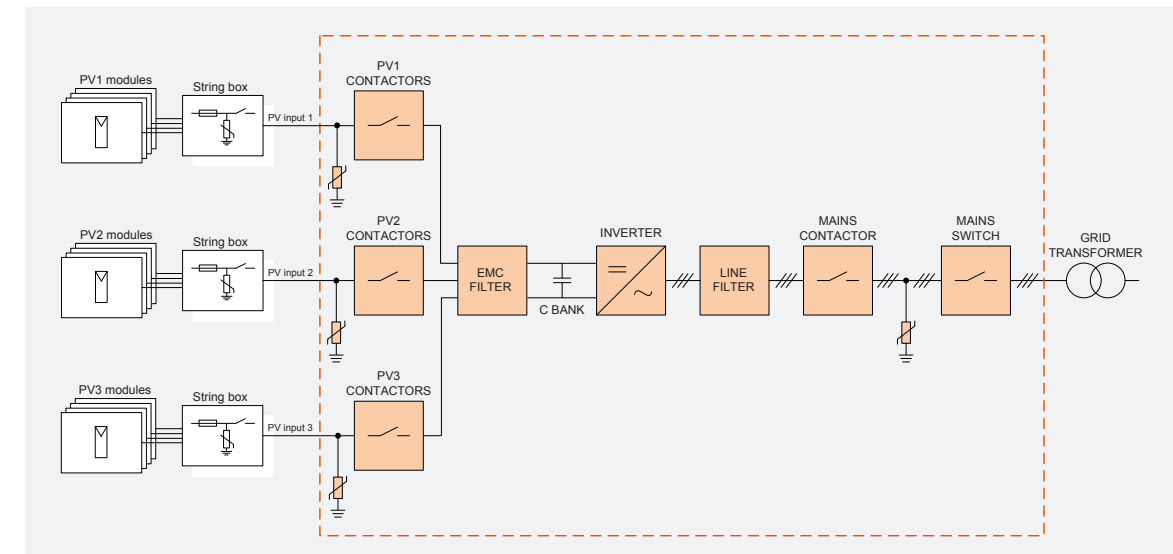
Max Efficiency: 98.4%

Available Versions

Indoor Types	AC-Nominal Power	# of MPP Trackers	# of Inputs	Max. DC-Current per Input	Max. DC Current
SOLO 500	500 kW	1	3	380 A	1140A

Woodward can also deliver a complete SOLO Inverter Stations for 500 kW, 750 kW, 1000 kW and 1500 kW.

SOLO 500



Inverters

String Boxes

Solar Stations

Accessories

Warranty And Service

Transformers

Monitoring Systems

References

SOLO 500 Specs | 500 kW CENTRAL INVERTER

Type / Model	SOLO 500 / ISC-33-114	
Grid Data		
Nominal AC power (P_{AC})	500 kW	
Maximal AC power	550 kW	At ambient temperature $T_{amb} < 45\text{ }^{\circ}\text{C}$
AC operating voltage (U_{AC})	330 V	+10 % / -15 %
AC nominal current (I_{AC})	875 A	
Grid frequency (f_{AC})	50 Hz / 60 Hz	$\pm 10\text{ }%$
Grid structure	IT	
Surge protection	Yes	
Harmonic distortion (%THD I_{AC})	< 3 %	
Power factor ($\cos \varphi$)	-0.9 to +0.9	0.9 capacitive to 0.9 inductive Note: Detailed capability curve on request
Max Efficiency	98.4%	
Euro eta	97.8%	
Auxiliary power supply (Either external or generated internally)	3 x 400 V _{AC} 50 / 60 Hz	+10 % / -15 % TN-S; surge protection type 2 * 480 V in US
Max. Auxiliary power consumption	5 W / 1400 W	At standby / At full power Note: Depending on the type of the string boxes used, they may have additional consumption
Photovoltaic Data		
Nominal PV power (P_{PV})	508 kW	
Control strategy	MPPT	Maximum Power Point Tracking
* Number of PV inputs Max. DC current on each PV input DC voltage range for MPPT	3 380 A 550 ... 1100 V _{DC}	All PV inputs have one common MPP tracker * Max DC voltage is 1000V in US
* Max. permissible PV voltage (U_{PVmax}) Maximum PV voltage for operation start	1200 V _{DC} 1200 V _{DC}	* Max DC voltage is 1000V in US
Voltage ripple U_{PP} (PV input)	< 3 %	
Surge protection (PV input)	Type 2	Monitored
Grounding (PV input)	Floating *	Option: connection to PV(-) or PV(+) input * Floating ground not available in U.S. may have either PV(+) or PV(-) ground
User Interface		
External emergency stop Input	24 V _{DC} ($\pm 10\text{ }%$), 20 mA, active high	Connect to dry contact: Open -> E-stop active, closed -> E-stop inactive
Emergency stop Output	24 V, max. 1 A	Dry contact: Open -> E-stop active, closed -> E-stop inactive
Transformer ready Input	24 V _{DC} ($\pm 10\text{ }%$), 20 mA, active high	Connect to dry contact: Open -> not ready, closed -> ready
Transformer stand by Output	24 V, max. 1 A	Dry contact: Open -> stand by, closed -> operation
Inverter enable / disable Input	24 V _{DC} ($\pm 10\text{ }%$), 20 mA, active high	Connect to dry contact: Open -> disabled, closed -> enabled
Communication inter-face	EIA-485, Ethernet	Others see under options
Data logger interface	Woodward Web Portal	Others see under options

Type / Model	SOLO 500 / ISC-33-114	
Cabinet and Ambient Conditions		
Dimensions (W x D x H)	1340 x 900 x 1920 mm	
Weight (m) approx.	1350 kg	
Ambient temperature range (T_{amb})	-20 to +45 $^{\circ}\text{C}$	Option: -25 to +55 $^{\circ}\text{C}$
Humidity	15 to 95 %	Non condensing
Enclosure type according to EN 60529	IP54	Option: IP55 outdoor type
Maximum elevation above sea level	2000 m	Option: 3500 m (high altitude version)
Cooling		Liquid cooled with external heat exchanger
Coolant concentration	-25 $^{\circ}\text{C}$	Water 55 %, ethylene-glycol 45 %
Static pressure of coolant(p)	2 bar (± 0.5 bar)	Above ambient, at 20 $^{\circ}\text{C}$
Heat Exchanger		
Dimensions (W x D x H)	500 x 700 x 835 mm	
Weight (m)	51 kg	
Air inlet temperature range (T_{hex})	-20 to +45 $^{\circ}\text{C}$	Option: -25 to +55 $^{\circ}\text{C}$
Hose size (d) Max. hose length (l)	25 mm / 37 mm 10 m	Inside diameter / Outside diameter Inverter to heat exchanger
Max. elevation above inverter level (h)	9 m	Heat exchanger top level – inverter bottom level
Standards		
CE conformity / EMC	Yes / EN 61000-6-2, EN 61000-6-4	
UL 1741	Yes	
Options		
Power limitation control / BDEW directives: grid monitoring (VDE-AR-N 4105) or low voltage ride through (LVRT), fault ride through (FRT)/ Potential Equalization Device (PED) for PV- or PV+ ground fault monitoring / AC operating voltage $U_{AC} = 300\text{ V}$ / Further on request		
Connecting PV(-) or PV(+) input to ground (inclusive earth current measurement) / High altitude version / Extended temperature range / Outdoor type		
Communication interface: SCADA (Modbus RTU and TCP/IP), GSM, PROFIBUS, or line modem		
Data logger: SolarLog, Meteocontrol, others on request		

