

# SINGLE PHASE STRING INVERTER 7-10 KW

**CSI-7KTL1P-GI-FL | CSI-8KTL1P-GI-FL  
CSI-9KTL1P-GI-FL | CSI-10KTL1P-GI-FL**

Canadian Solar's grid-tied, transformer-less string inverters help to accelerate the use of single-phase string architecture for commercial rooftop and small ground-mount applications. An NRTL approved, cost-effective alternative to MLPE, these inverters are modular design building blocks that provide high yield and enable significant BoS cost savings. They provide up to 98.1% conversion efficiency, a wide operating range of 100-500 V<sub>DC</sub>, and three MPPTs for maximum energy harvest.



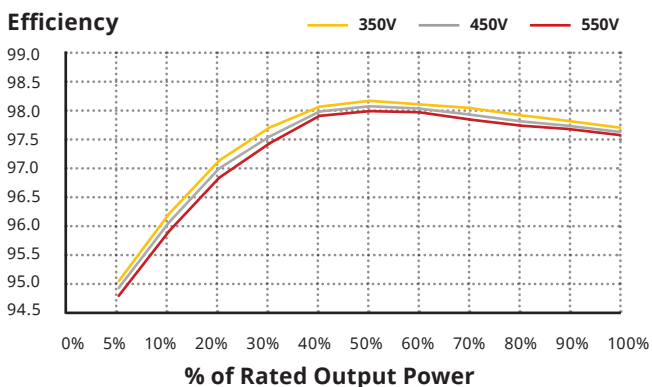
**Standard warranty, extension up to 20 years**

## KEY FEATURES

- Maximum efficiency of 98.1%, Maximum EU efficiency of 97.6%
- 3 MPPTs to achieve higher system efficiency
- Transformerless design
- High switching frequency and ultra fast MPPT for maximum efficiency over a wide load range

## EFFICIENCY CURVE

CSI-9KTL1P-GI-FL @ 230 V<sub>AC</sub>



\*For detailed information, please refer to the Installation Manual.

## HIGH RELIABILITY

- Advanced thermal design and convection cooling
- Built in over-voltage and over-current protection
- DC reverse polarity and AC short circuit protection

## BROAD ADAPTIBILITY

- IP65 rated for outdoor application
- Utility interactive controls: Active power derating, reactive power control and over frequency derating
- Integrated DC load rated disconnects
- Supports up to 3 DC string inputs (1 per MPPT)
- Wide MPPT range for flexible string sizing

**CANADIAN SOLAR (USA), INC.** is committed to providing high quality solar products, solar system solutions and services to customers around the world. As a leading PV project developer and manufacturer of solar modules with over 30 GW deployed around the world since 2001, Canadian Solar Inc. (NASDAQ: CSIQ) is one of the most bankable solar companies worldwide.

## CANADIAN SOLAR (USA), INC.

3000 Oak Road, Suite 400, Walnut Creek, CA 94597, USA | [www.canadiansolar.com/na](http://www.canadiansolar.com/na) | [sales.us@canadiansolar.com](mailto:sales.us@canadiansolar.com)

SYSTEM/TECHNICAL DATA				
MODEL NAME	CSI-7KTL1P-GI-FL	CSI-8KTL1P-GI-FL	CSI-9KTL1P-GI-FL	CSI-10KTL1P-GI-FL
<b>DC INPUT</b>				
Max. PV Power	8.0 kW	9.2 kW	10.8 kW	11.5 kW
Max. DC Input Voltage	600 V <sub>DC</sub>			
Start-up DC Input Voltage/Power	120 V <sub>DC</sub>			
Number of MPP Trackers	3			
MPPT Voltage Range	100 - 500 V <sub>DC</sub>			
Max. Input Current (Imp)	30 A (10 A per MPPT)			
Max. Short Circuit Current (Isc)	46.8 A (15.6 A per MPPT)			
Number of DC Inputs	3 (1 per MPPT)			
DC Disconnection Type	Load rated DC switch			
<b>AC OUTPUT</b>				
Rated AC Output Power	7 kW	8 kW	9 kW	10 kW
Max. AC Output Power	7.7 kW	8.8 kW	9.9 kW	10 kW
Rated Output Voltage	230 V <sub>AC</sub>			
Output Voltage Range*	160 - 285 V <sub>AC</sub>			
Grid Connection Type	1 $\Phi$ / PE			
Rated Grid Output Current	30.4 A	34.8 A	39.1 A	43.5 A
Max Output Current	33.7 A	36.6 A	41.3 A	45.9 A
Rated Output Frequency	50 / 60 Hz			
Output Frequency Range*	47 - 52 / 57 - 62 Hz			
Power Factor	1 default ( $\pm$ 0.8 adjustable)			
Current THD	< 1.5 %			
DC Injection Current	< 0.5 % of Rated Grid Output Current			
AC Disconnect Type	Not Available			
<b>SYSTEM</b>				
Topology	Transformerless			
Max. Efficiency	98.1 %			
CEC Efficiency	97.6 %			
Night Consumption	< 1 W			
<b>ENVIRONMENT</b>				
Protection Degree	IP65			
Cooling	Natural Convection Cooling			
Operating Temperature Range	-25 ° C to +60 ° C			
Storage Temperature Range	-40 ° C to +70 ° C			
Operating Humidity	0 - 100 % condensing			
Operating Altitude	4000 m			
Audible Noise	<30 dBA @ 1 m			
<b>DISPLAY AND COMMUNICATION</b>				
Display	LCD + LED			
Communication	Standard: RS485 (Modbus)			
<b>MECHANICAL DATA</b>				
Dimensions (W / H / D)	333 x 573 x 249 mm			
Weight	18 kg			
Installation Angle	90 degrees from horizontal			
DC Inputs	MC4 compatible			
<b>SAFETY</b>				
Safety and EMC Standard	IEC62109-1/-2, NB/T 32004, EN61000-6-1, EN61000-6-3			
Grid Standard	EN50438, G59/3, AS4777, VDE0126-1-1, IEC61727, VDE N4105			
Smart-Grid Features	Voltage-Ride Thru, Frequency-Ride Thru, Soft-Start, Volt-Var, Frequency-Watt, Volt-Watt			

\*The "Output Voltage Range" and "Output Frequency Range" may differ according to specific grid standard.

The specification and key features described in this datasheet may deviate slightly and are not guaranteed. Due to on-going innovation, research and product enhancement, Canadian Solar Inc. reserves the right to make any adjustment to the information described herein at any time without notice. Please always obtain the most recent version of the datasheet which shall be duly incorporated into the binding contract made by the parties governing all transactions related to the purchase and sale of the products described herein.

Caution: For professional use only. The installation and handling of PV equipment requires professional skills and should only be performed by qualified professionals. Please read the safety and installation instructions before using the product.