

# THREE PHASE STRING INVERTER 40-50 KW

## CSI-40KTL-GI-FL | CSI-50KTL-GI

Canadian Solar's grid-tied, transformer-less string inverters help to accelerate the use of three-phase string architecture for commercial rooftop and small ground-mount applications. An NRTL approved, cost-effective alternative to central inverters, these inverters are modular design building blocks that provide high yield and enable significant BoS cost savings. They provide up to 99% conversion efficiency, a wide operating range of 200-1000 V<sub>DC</sub> and four MPPTs for maximum energy harvest.



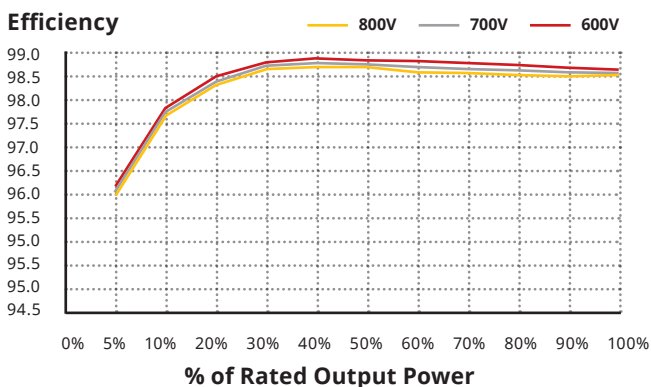
**Standard warranty, extension up to 20 years**

### KEY FEATURES

- Maximum efficiency of 99%, Maximum IEC efficiency of 98.8%
- 4 MPPTs to achieve higher system efficiency
- Transformerless design
- High switching frequency and ultra fast MPPT (<5 sec.) for maximum efficiency over a wide load range

### EFFICIENCY CURVE

CSI-50KTL-GI@380 Vac



\*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
- Supports up to 12 DC string inputs (3 per MPPT)
- Integrated DC load rated disconnects
- 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 25 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.**

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**SYSTEM/TECHNICAL DATA**

MODEL NAME	CSI-40KTL-GI-FL	CSI-50KTL-GI
<b>DC INPUT</b>		
Max. PV Power	48 kW (16 kW/MPPT)	58 kW (22.5 kW/MPPT)
Max. DC Input Voltage	1100 V <sub>DC</sub>	
Operating DC Input Voltage Range	200-1000 V <sub>DC</sub>	
Start-up DC Input Voltage/Power	200 V	
Number of MPP Trackers	4	
MPPT Voltage Range	454-850 V <sub>DC</sub>	439-850 V <sub>DC</sub>
Operating Current (Imp)	88 A (22 A per MPPT)	114 A (28.5 A per MPPT)
Max. Input Current (Isc)	137.2 A (34.3 A per MPPT)	178 A (44.5 A per MPPT)
Number of DC Inputs	8 (2 per MPPT)	12 (3 per MPPT)
DC Disconnection Type	Load rated DC switch	
<b>AC OUTPUT</b>		
Rated AC Output Power	40 kW	50 kW
Max. AC Output Power	44 kW	55 kW
Rated Output Voltage	380/400 V <sub>AC</sub>	
Output Voltage Range*	304-460 V <sub>AC</sub>	
Grid Connection Type	3 $\Phi$ /PE	
Nominal AC Output Current @480 Vac	60.8/58 A	76/72.2 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	< 3 %	
<b>SYSTEM</b>		
Topology	Transformerless	
Max. Efficiency	98.8 %	98.8 %
CEC Efficiency	98.4%	98.4 %
Night Consumption	< 1 W	
<b>ENVIRONMENT</b>		
Protection Degree	IP65	
Cooling	Natural Convection Cooling	Intelligent Redundant 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	<60 dBA @ 1 m	
<b>DISPLAY AND COMMUNICATION</b>		
Display	LCD + LED	
Communication	Standard: RS485 (Modbus)	
<b>MECHANICAL DATA</b>		
Dimensions (W / H / D)	630 x 700 x 357 mm	
Weight	61 kg	63 kg
Installation Angle	90 degrees from horizontal	
DC Inputs	MC4 compatible	
<b>SAFETY</b>		
Safety and EMC Standard	IEC62109-1/-2, AS3100, EN61000-6-1, EN61000-6-3, NB/T 32004	
Grid Standard	EN50438, G59/3, AS4777, VDE0126-1-1, IEC61727	
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.