



## HiQ Solar TrueString 480V Inverter TS480XL-10k Specifications



### Features

- Rugged 3-phase 480V plug & play system
- Small and light (hand holdable, 30.6 lb.)
- Non-isolated inverter for use with ungrounded DC systems
- Peak 98.2% efficiency, CEC efficiency of 97.5%
- 200-850V DC MPP voltage range for 600V and 1,000V systems
- 10 kW AC full power MPP voltage range 450-850V
- Two DC string inputs with independent monitoring and MPPT management.
- Waterproof NEMA6, silent convection cooling
- Designed for high reliability, uses no electrolytic capacitors
- Wide temperature range, -40 to +65°C
- Utility-Interactive; Listed to UL1741SA
- Compliant with UL1699B arc detection

### Applications

- Rooftop commercial, usable where other solutions just won't work - for example coastal, desert, high altitude locations
- Car ports, parking and shade structures; units may be mounted at any orientation, under modules, on racking without extra strengthening, clear of risk of liability from vandalism



<b>DC Input (two MPPT inputs)</b>	
Maximum open circuit voltage per String, VOC	1,000 VDC
Full power MPPT range, per string	450-850 VDC
PV start voltage	200 VDC
DC allowable stacking ratio (total, 2 inputs combined)	Must not exceed 4.0 under any circumstances <sup>1</sup>
DC maximum input current, per DC input	12 A
DC maximum input short circuit current	30 A
DC maximum input source back feed current to input source	0 A
DC disconnect means	The DC connector has been evaluated and approved by UL for use as the load-break disconnect required by the NEC <sup>2</sup>
<b>AC Output</b>	
AC maximum continuous total output power to +40 °C	9.975 kW
AC de-rate with temperature, +40 to +65 °C	-175 W/°C
AC nominal output current, per phase	12 A
AC maximum continuous output current, per phase	12 A
AC maximum output over current protection	80 A
AC synchronization in-rush current	0 A
Maximum output fault current and duration	12A, <0.1ms
AC minimum wire gauge for grid connection	14 AWG
AC 3-phase system compatibility	480V WYE, 3 phases, neutral and ground
AC voltage range <sup>3</sup> , phase to phase (min / nominal / max)	422 / 480 / 528 V (Limits adjustable, see below)
AC voltage range <sup>3</sup> , phase to neutral (min / nominal / max)	244 / 277 / 305 V (Limits adjustable, see below)
AC output frequency range <sup>3</sup> (min / nominal / max)	58.5 / 60 / 62 Hz (Limits adjustable, see below)
AC reconnect time delay <sup>3</sup> (min/default/max)	1 / 300 / 1000 s
Power Factor	≥0.99 (settable from 0.8 leading to 0.8 lagging)
AC disconnect means	The AC connector has been evaluated and approved by UL for use as the load-break disconnect required by the NEC <sup>2</sup>
<b>Other Specifications</b>	
Peak efficiency	98.2 %
CEC efficiency	97.5 %
AC Voltage Trip Limit Accuracy	±2.7 V
Frequency Trip Limit Accuracy	0.05 Hz
Trip Time Accuracy	±34 ms or 1%
Dimensions	515 x 378 x 86 mm (20.25" x 14.9" x 3.4")
Weight	13.6 kg (30.6 lb.)
Operating temperature range	-40 to +65 °C (-40 to 150 °F)
Power consumption standby/ night	<8.3 W
Cooling	Natural convection, no fan
Communication	Powerline or Modbus/RS485
Environmental rating	Outdoor / rooftop, NEMA type 6
Certification, inverter	CA Rule 21 (UL1741-SA), UL1741/IEEE1547, UL1699B, CAN/CSA C22.2 NO. 107.1, FCC Part 15 Part A. Meets the requirements of NEC 690.11

*Note 1: Stacking: On the DC side of the inverter, each input limits at 6 kW and/or 12A, and the combined total AC output is limited to 9.975 kW. Higher DC STC string powers may be applied, the inverter will limit as described above. Total stacking for inverter must not exceed 4.0 under any circumstances*

*Note 2: NEC section 690.17, allowed by the exception of meeting requirements specified in 690.33*

*Note 3: These parameters can be adjusted as required by the Utility, see following page for ranges.*

Operating Parameter Condition		Unit	Default	Min	Max	
AC Voltage, Ride Through	High, Region 2	Voltage (Vrms, L-N)	332.4	332.4	360.1	
		Time (seconds)	0.16	-	-	
	High, Region 1	Voltage (Vrms, L-N)	304.7	304.7	332.4	
		Time (seconds)	13	1	13	
	Low, Region 1	Voltage (Vrms, L-N)	243.8	193.9	243.8	
		Time (seconds)	21	2	21	
	Low, Region 2	Voltage (Vrms, L-N)	193.9	138.5	193.9	
		Time (seconds)	11	2	11	
	Low, Region 3	Voltage (Vrms, L-N)	138.5	83.1	138.5	
		Time (seconds)	1.5	0.16	5	
	Frequency, Ride Through	High, Region 2	Frequency (Hz)	62	62	64
			Time (seconds)	0.16	0.16	1000
High, Region 1		Frequency (Hz)	62	60.1	62	
		Time (seconds)	300	0.18	1020	
Low, Region 1		Frequency (Hz)	58.5	57	59.9	
		Time (seconds)	300	0.18	1020	
Low, Region 2		Frequency (Hz)	57	53	57	
		Time (seconds)	0.16	0.16	1000	
Ramp Rate	Soft Start Ramp Rate	% Inominal/second	100	0.1	100	
	Normal Ramp Rate	% Inominal/second	100	0.1	100	
Volt/VAR	Inflection Point 4	Voltage (Vrms, L-N)	332.4	304.7	332.4	
		VAR	-1000	-6000	0	
	Inflection Point 3	Voltage (Vrms, L-N)	290.9	277	304.7	
		VAR	0	0	0	
	Inflection Point 2	Voltage (Vrms, L-N)	263.2	249.3	277	
		VAR	0	0	0	
	Inflection Point 1	Voltage (Vrms, L-N)	221.6	193.9	249.3	
		VAR	1000	0	6000	
Specified Reactive Power	VAR	0	0	6000		
Response Time	Time (seconds)	1	0.25	1000		
Frequency/Watt	High/Low Frequency Deadband	Frequency (Hz)	0.036	0.017	1	
	High/Low Frequency Scaling Factor	-	0.05	0.03	0.05	
	Response Time	Time (seconds)	5	1	10	
Volt/Watt	V/W Starting Voltage	Voltage (Vrms, L-N)	290.9	290.9	301.9	
	V/W Ending Voltage	Voltage (Vrms, L-N)	304.7	293.6	304.7	
	Power Limit	Watts	2000	0	10000	
	Response Time	Time (seconds)	10	0.5	60	