



HiQ Solar TrueString XL 400V 50Hz Inverter TSXL400-8k33 Specifications



Features

- Rugged 3-phase 400VAC 50Hz plug & play system
- Small and light (hand holdable, 30.6 lb.)
- Non-isolated inverter for use with ungrounded DC systems
- CEC efficiency of 97.5% (based on 10kW inverter CEC rating)
- 200-850V DC MPP voltage range for 600V and 1,000V systems
- 8.333 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
- Hardware identical to UL1741SA listed 10kW 480V inverter with UL1699B compliant 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



DC Input (two MPPT inputs)	
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 ¹
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 ²
AC Output	
AC maximum continuous total output power to +40 °C	8.333 kW
AC de-rate with temperature, +40 to +65 °C	-133 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	400V WYE, 3 phases, neutral and ground
AC voltage range ³ , phase to phase (min / nominal / max)	352 / 400 / 440 V (Limits adjustable, see below)
AC voltage range ³ , phase to neutral (min / nominal / max)	203 / 230 / 254 V (Limits adjustable, see below)
AC output frequency range ³ (min / nominal / max)	48.5 / 50 / 52 Hz (Limits adjustable, see below)
AC reconnect time delay ³ (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 ²
Other Specifications	
Peak efficiency	98.1% approx.
CEC efficiency	97.5 %
AC Voltage Trip Limit Accuracy	±2.7 V
Frequency Trip Limit Accuracy	0.05 Hz
Trip Time Accuracy	±40 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

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 8.333 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)	277.0	277.0	300.0
		Time (seconds)	0.16	-	-
	High, Region 1	Voltage (Vrms, L-N)	253.9	253.9	277.0
		Time (seconds)	13	1	13
	Low, Region 1	Voltage (Vrms, L-N)	203.2	161.8	203.2
		Time (seconds)	21	2	21
	Low, Region 2	Voltage (Vrms, L-N)	161.8	115.4	161.8
		Time (seconds)	11	2	11
	Low, Region 3	Voltage (Vrms, L-N)	115.4	69.25	115.4
		Time (seconds)	1.5	0.16	5
Frequency, Ride Through	High, Region 2	Frequency (Hz)	52	52	54
		Time (seconds)	0.16	0.16	1000
	High, Region 1	Frequency (Hz)	52	50.1	52
		Time (seconds)	300	0.18	1020
	Low, Region 1	Frequency (Hz)	48.5	47	49.9
		Time (seconds)	300	0.18	1020
	Low, Region 2	Frequency (Hz)	47	43	47
		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)	277.0	253.9	277.0
		VAR	-1000	-6000	0
	Inflection Point 3	Voltage (Vrms, L-N)	242.4	230.8	253.9
		VAR	0	0	0
	Inflection Point 2	Voltage (Vrms, L-N)	219.3	207.7	230.8
		VAR	0	0	0
	Inflection Point 1	Voltage (Vrms, L-N)	184.7	161.6	207.7
		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)	242.4	242.4	251.6
	V/W Ending Voltage	Voltage (Vrms, L-N)	253.9	244.7	253.9
	Power Limit	Watts	2000	0	10000
	Response Time	Time (seconds)	10	0.5	60