Craig Hobbs Residence
7051 Alonzo Ave NW, Seattle, WA 98117

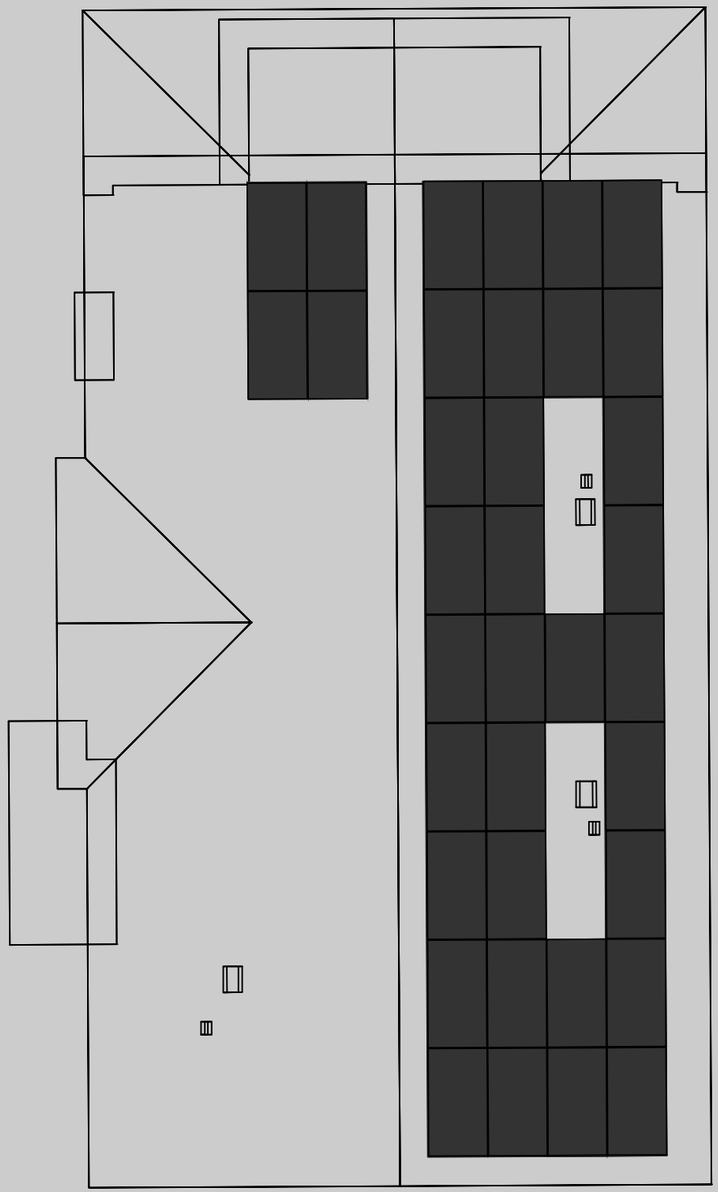
Solar
Quantity: 36 Panels
System Size: 11.34
Est. Annual Production: 12059.32 kWh

Powerwall
Quantity: 3 Powerwalls
Backup Type: Full Home

Equipment Location
Your solar inverter(s), Energy Gateway, Powerwall(s) and any additional equipment will be installed near your utility electric meter.

At the beginning of installation, the Tesla crew lead will discuss with you the exact location based on your preference and install feasibility.

Front Of House



LEGEND
Solar Panels

Rooftop vents, skylights, chimneys, and HVAC

SolarEdge Single Phase Inverters

for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US /
SE7600H-US / SE10000H-US / SE11400H-US

INVERTERS

Optimized installation with HD-Wave technology

- Specifically designed to work with power optimizers
- Record-breaking efficiency
- Fixed voltage inverter for longer strings
- Integrated arc fault protection and rapid shutdown for NEC 2014 and 2017, per article 690.11 and 690.12
- UL1741 SA certified, for CPUC Rule 21 grid compliance
- Extremely small
- High reliability without any electrolytic capacitors
- Built-in module-level monitoring
- Outdoor and indoor installation
- Optional: Revenue grade data, ANSI C12.20 Class 0.5 (0.5% accuracy)
- Simple configuration and commissioning with smartphone app and built in Wi-Fi (SE10000H-US, SE11400H-US)

HD wave

USA-CANADA-GERMANY-UK-ITALY-THE NETHERLANDS-JAPAN-CHINA-AUSTRALIA-ISRAEL-FRANCE-BELGIUM-TURKEY-INDIA-BULGARIA-ROMANIA-HUNGARY-SWEDEN-SOUTH AFRICA-POLAND-CZECH REPUBLIC

www.solaredge.us

Single Phase Inverters for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US/ SE7600H-US /
SE10000H-US / SE11400H-US

	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	
OUTPUT								
Rated AC Power Output	3000	3800 @240V 3300 @208V	5000	6000	7600	10000	11400	VA
Max. AC Power Output	3000	3800 @240V 3300 @208V	5000	6000	7600	10000	11400	VA
AC Output Voltage Min.-Nom.-Max. (183 - 208 - 229)	-	✓	✓	-	-	-	-	Vac
AC Output Voltage Min.-Nom.-Max. (211 - 240 - 264)	✓	✓	✓	✓	✓	✓	✓	Vac
AC Frequency (Nominal)	59.3 - 60 - 60.5[1]							Hz
Maximum Continuous Output Current 208V	-	16	24	-	-	-	-	A
Maximum Continuous Output Current 240V	12.5	16	21	25	32	42	47.5	A
GFDI Threshold	1							A
Utility Monitoring, Islanding Protection, Country Configurable Thresholds	Yes							
INPUT								
Maximum DC Power	4650	5900	7750	9300	11800	15500	17670	W
Transformer-less, Ungrounded	Yes							
Maximum Input Voltage	480							Vdc
Nominal DC Input Voltage	380				400			Vdc
Maximum Input Current 208V	-	9	13.5	-	-	-	-	Adc
Maximum Input Current 240V	8.5	10.5	13.5	16.5	20	27	30.5	Adc
Max. Input Short Circuit Current	45							Adc
Reverse-Polarity Protection	Yes							
Ground-Fault Isolation Detection	600kΩ Sensitivity							
Maximum Inverter Efficiency	99	99.2						%
CEC Weighted Efficiency	99							%
Nighttime Power Consumption	< 2.5							W
ADDITIONAL FEATURES								
Supported Communication Interfaces	RS485, Ethernet, ZigBee (optional), Cellular (optional)							
Revenue Grade Data, ANSI C12.20	Optional[2]							
Rapid Shutdown - NEC 2014 and 2017 690.12	Automatic Rapid Shutdown upon AC Grid Disconnect							
STANDARD COMPLIANCE								
Safety	UL1741, UL1741 SA, UL1699B, CSA C22.2, Canadian AFCI according to T.I.L. M-07							
Grid Connection Standards	IEEE1547, Rule 21, Rule 14 (HI)							
Emissions	FCC Part 15 Class B							
INSTALLATION SPECIFICATIONS								
AC Output Conduit Size / AWG Range	3/4" minimum / 20-4 AWG							
DC Input Conduit Size / # of Strings / AWG Range	3/4" minimum / 1-2 strings / 14-6 AWG					3/4" minimum / 1-3 strings / 14-6 AWG		
Dimensions with Safety Switch (HxWxD)	17.7 x 14.6 x 6.8 / 450 x 370 x 174					21.3 x 14.6 x 7.7 / 540 x 370 x 195	21.3 x 14.6 x 7.3 / 540 x 370 x 185	in / mm
Weight with Safety Switch	22 / 10	25.1 / 11.4		26.2 / 11.9		38.8 / 17.6	40.1 / 18.2	lb / kg
Noise	< 25				<50			dBA
Cooling	Natural Convection				Natural convection and internal fan (user replaceable)			
Operating Temperature Range	-13 to +140 / -25 to +60[4] (-40˚F / -40˚C option)[5]							˚F / ˚C
Protection Rating	NEMA 3R (Inverter with Safety Switch)							

[1] For other regional settings please contact SolarEdge support
[2] Revenue grade inverter P/N: SExxxxH-US000NNC2
[4] For power de-rating information refer to: https://www.solaredge.com/sites/default/files/se-temperature-derating-note-na.pdf
[5] -40 version P/N: SExxxxH-US000NNU4

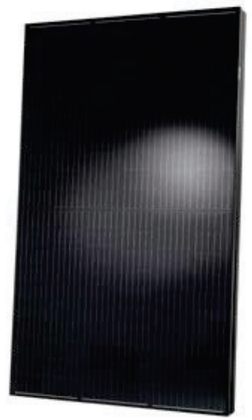
RoHS

powered by Q.ANTUM DUO

Q.PEAK DUO BLK-G5/SC 310-320

Q.ANTUM SOLAR MODULE

The new Q.PEAK DUO BLK-G5/SC solar module from Q CELLS impresses thanks to innovative Q.ANTUM DUO Technology, which enables particularly high performance on a small surface, and a black Zep CompatibleTM frame design for improved aesthetics, easy installation and increased safety. Q.ANTUM's world-record-holding cell concept has now been combined with state-of-the-art circuitry half cells and a six-busbar design, thus achieving outstanding performance under real conditions - both with low-intensity solar radiation as well as on hot, clear summer days.



Q.ANTUM TECHNOLOGY: LOW LEVELIZED COST OF ELECTRICITY
Higher yield per surface area, lower BOS costs, higher power classes, and an efficiency rate of up to 19.3 %.

INNOVATIVE ALL-WEATHER TECHNOLOGY
Optimal yields, whatever the weather with excellent low-light and temperature behavior.

ENDURING HIGH PERFORMANCE
Long-term yield security with Anti LID and Anti PID Technology[1], Hot-Spot Protect and Traceable Quality Tra.Q™.

EXTREME WEATHER RATING
High-tech aluminum alloy frame, certified for high snow (5400 Pa) and wind loads (4000 Pa) regarding IEC.

A RELIABLE INVESTMENT
Inclusive 12-year product warranty and 25-year linear performance guarantee[2].

STATE OF THE ART MODULE TECHNOLOGY
Q.ANTUM DUO combines cutting edge cell separation and innovative wiring with Q.ANTUM Technology.

EUPD RESEARCH TOP BRAND PV MODULES EUROPE 2018

Q CELLS YIELD SECURITY
- ANTI PID TECHNOLOGY (APT)
- HOT-SPOT PROTECT (HSP)
- TRACEABLE QUALITY (TRA.Q™)
- ANTI LID TECHNOLOGY (ALT)

ZEP COMPATIBLE

[1] APT test conditions according to IEC/TS 62804-1:2015, method B (–1500 V, 168 h)
[2] See data sheet on rear for further information.

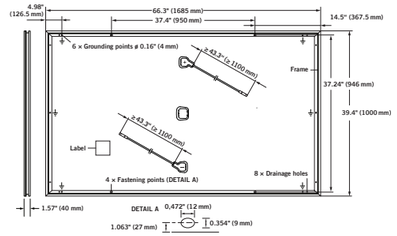
THE IDEAL SOLUTION FOR:
Rooftop arrays on commercial / industrial buildings

Engineered in **Germany**

Q CELLS

MECHANICAL SPECIFICATION

Format	66.3 in × 39.4 in × 1.57 in (including frame) (1685 mm × 1000 mm × 40 mm)
Weight	44.5 lbs (20.2 kg)
Front Cover	0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodized aluminum
Cell	6 × 20 monocrystalline Q.ANTUM solar half-cells
Junction box	2.76-3.35 in × 1.97-2.76 in × 0.51-0.83 in (70-85 mm × 50-70 mm × 13-21 mm), decentralized, IP67
Cable	4 mm² Solar cable; (+) ≥43.3 in (1100 mm), (–) ≥43.3 in (1100 mm)
Connector	Multi-Contact MC4, IP68

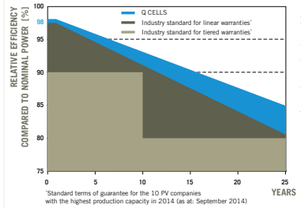


ELECTRICAL CHARACTERISTICS

POWER CLASS				310	315	320
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC[1] (POWER TOLERANCE +5 W / –0 W)						
Minimum	Power at MPP[2]	P_{MPP}	[W]	310	315	320
	Short Circuit Current*	I_{SC}	[A]	9.83	9.89	9.94
	Open Circuit Voltage*	V_{OC}	[V]	40.02	40.29	40.56
	Current at MPP*	I_{MPP}	[A]	9.36	9.41	9.47
	Voltage at MPP*	V_{MPP}	[V]	33.12	33.46	33.80
	Efficiency[2]	η	[%]	≥18.4	≥18.7	≥19.0
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NOC[3]						
Minimum	Power at MPP[2]	P_{MPP}	[W]	229.7	233.5	237.2
	Short Circuit Current*	I_{SC}	[A]	7.93	7.97	8.02
	Open Circuit Voltage*	V_{OC}	[V]	37.43	37.69	37.94
	Current at MPP*	I_{MPP}	[A]	7.36	7.41	7.45
	Voltage at MPP*	V_{MPP}	[V]	31.20	31.52	31.84

[1] 1000 W/m², 25 °C, spectrum AM 1.5 G [2] Measurement tolerances STC ±3 %; NOC ±5 % [3] 800 W/m², NOCT, spectrum AM 1.5 G * typical values, actual values may differ

Q CELLS PERFORMANCE WARRANTY

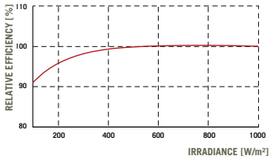


*Standard terms of guarantee for the 10 PV companies with the highest production capacity in 2014 (as at. September 2014)

At least 98 % of nominal power during first year.
Thereafter max. 0.54 % degradation per year.
At least 93.1 % of nominal power up to 10 years.
At least 85 % of nominal power up to 25 years.

All data within measurement tolerances.
Full warranties in accordance with the warranty terms of the Q CELLS sales organization of your respective country.

PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m²).

TEMPERATURE COEFFICIENTS

Temperature Coefficient of I_{SC}	α	[%/K]	+0.04	Temperature Coefficient of V_{OC}	β	[%/K]	–0.28
Temperature Coefficient of P_{MPP}	γ	[%/K]	–0.37	Normal Operating Cell Temperature	NOCT	[°F]	113 ±5.4 (45 ±3 °C)

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage V_{SYS}	[V]	1000 (IEC) / 1000 (UL)	Safety Class	II
Maximum Series Fuse Rating	[A DC]	20	Fire Rating	C (IEC) / TYPE 1 (UL)
Design load, push (UL)[2]	[lbs/ft²]	50 (2400 Pa)	Permitted module temperature on continuous duty	–40 °F up to +185 °F (–40 °C up to +85 °C)
Design load, pull (UL)[2]	[lbs/ft²]	50 (2400 Pa)	[2] see installation manual	

QUALIFICATIONS AND CERTIFICATES

UL 1703; CE-compliant;
IEC 61215 (Ed. 2); IEC 61730 (Ed. 1), application class A

PACKAGING INFORMATION

Number of Modules per Pallet	26
Number of Pallets per 53' Trailer	32
Number of Pallets per 40' High Cube Container	26
Pallet Dimensions (L × W × H)	69.3 in × 45.3 in × 46.9 in (1760 mm × 1150 mm × 1190 mm)
Pallet Weight	1268 lbs (575 kg)

NOTE: Installation instructions must be followed. See the installation and operating manual or contact our technical service department for further information on approved installation and use of this product.

Hanwha Q CELLS America Inc.
300 Spectrum Center Drive, Suite 1250, Irvine, CA 92618, USA I TEL +1 949 748 59 96 I EMAIL inquiry@us.q-cells.com I WEB www.q-cells.us

POWERWALL

Tesla Powerwall is a fully-integrated AC battery system for residential or light commercial use. Its rechargeable lithium-ion battery pack provides energy storage for solar self-consumption, time-based control, and backup.

Powerwall's electrical interface provides a simple connection to any home or building. Its revolutionary compact design achieves market-leading energy density and is easy to install, enabling owners to quickly realize the benefits of reliable, clean power.

PERFORMANCE SPECIFICATIONS

AC Voltage (Nominal)	120/240 V
Feed-In Type	Split Phase
Grid Frequency	60 Hz
Total Energy[1]	14 kWh
Usable Energy[1]	13.5 kWh
Real Power, max continuous[2]	5 kW (charge and discharge)
Real Power, peak (10 s, off-grid/backup)[2]	7 kW (charge and discharge)
Apparent Power, max continuous	5.8 kVA (charge and discharge)
Apparent Power, peak (10 s, off-grid/backup)	7.2 kVA (charge and discharge)
Maximum Supply Fault Current	10 kA
Maximum Output Fault Current	32 A
Overcurrent Protection Device	30 A
Imbalance for Split-Phase Loads	100%
Power Factor Output Range	+/– 1.0 adjustable
Power Factor Range (full-rated power)	+/– 0.85
Internal Battery DC Voltage	50 V
Round Trip Efficiency[1,3]	90%
Warranty	10 years

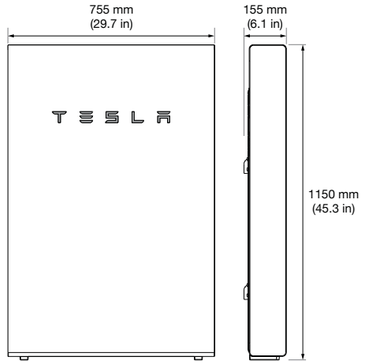
[1] Values provided for 25°C (77°F), 3.3 kW charge/discharge power.
[2] In Backup mode, grid charge power is limited to 1.67 kW.
[3] AC to battery to AC, at beginning of life.

COMPLIANCE INFORMATION

Certifications	UL 1642, UL 1741, UL 1973, UL 9540, IEEE 1547, UN 38.3
Grid Connection	Worldwide Compatibility
Emissions	FCC Part 15 Class B, ICES 003
Environmental	RoHS Directive 2011/65/EU
Seismic	AC156, IEEE 693-2005 (high)

MECHANICAL SPECIFICATIONS

Dimensions	1150 mm x 755 mm x 155 mm (45.3 in x 29.7 in x 6.1 in)
Weight	125 kg (276 lbs)
Mounting options	Floor or wall mount



ENVIRONMENTAL SPECIFICATIONS

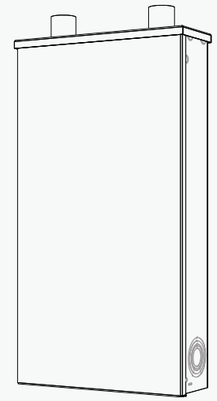
Operating Temperature	–20°C to 50°C (–4°F to 122°F)
Optimum Temperature	0°C to 30°C (32°F to 86°F)
Operating Humidity (RH)	Up to 100%, condensing
Storage Conditions	–20°C to 30°C (–4°F to 86°F) Up to 95% RH, non-condensing State of Energy (SoE): 25% initial
Maximum Elevation	3000 m (9843 ft)
Environment	Indoor and outdoor rated
Enclosure Type	NEMA 3R
Ingress Rating	IP67 (Battery & Power Electronics) IP56 (Wiring Compartment)
Wet Location Rating	Yes
Noise Level @ 1m	< 40 dBA at 30°C (86°F)

POWERWALL
Backup Gateway

The Backup Gateway for Tesla Powerwall provides energy management and monitoring for solar self-consumption, time-based control, and backup.

The Backup Gateway controls connection to the grid, automatically detecting outages and providing a seamless transition to backup power. When equipped with a circuit breaker, the Backup Gateway can be installed at the service entrance.

The Backup Gateway communicates directly with Powerwall, allowing you to monitor energy use and manage backup energy reserves from any mobile device with the Tesla app.



PERFORMANCE SPECIFICATIONS

AC Voltage (Nominal)	230 V, 120/240 V
Feed-In Type	Single & Split Phase
Grid Frequency	50 and 60 Hz
Disconnect Current	200 A
Maximum Input Short Circuit Current	10 kA
Overcurrent Protection Device[1]	100–200 A; Service Entrance Rated
Overvoltage Category	Category IV
AC Meter	Revenue grade (+/– 1%)
Connectivity	Ethernet, Cellular (3G)[2], Wi-Fi
User Interface	Tesla App
Operating Modes	Support for solar self-consumption, time-based control, and backup
Backup Operation	Automatic disconnect for seamless backup transition
Modularity	Supports up to 10 AC-coupled Powerwalls
Warranty	10 years

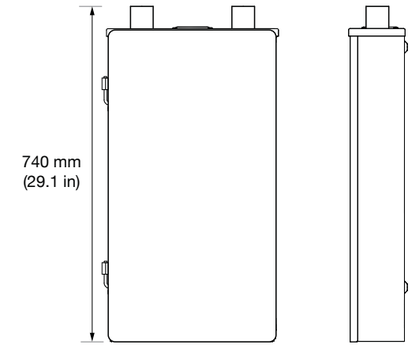
[1] Circuit breaker required for installation at service entrance.
[2] Cellular connectivity subject to network operator service coverage and signal strength.

COMPLIANCE INFORMATION

Certifications	UL 1642, UL 1741, IEC 62109-1, CSA C22.2.107.1
Grid Connection	Worldwide Compatibility
Emissions	FCC Part 15 Class B, ICES 003, IEC 61000-6-3, EN 55024, EN 301489-1, EN 301489-7, EN 301489-17
Environmental	RoHS Directive 2011/65/EU, WEEE Directive 2012/19/EU, Battery Directive 2006/66/EC REACH Regulation
Seismic	AC156, IEEE 693-2005 (high)

MECHANICAL SPECIFICATIONS

Dimensions	740 mm x 378 mm x 129 mm (29.1 in x 14.9 in x 5.1 in)
Weight	16.4 kg (36 lbs)
Mounting options	Wall mount



ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	–20°C to 50°C (–4°F to 122°F)
Operating Humidity (RH)	Up to 100%, condensing
Maximum Elevation	3000 m (9843 ft)
Environment	Indoor and outdoor rated
Enclosure Type	NEMA 3R
Ingress Rating	IP44