

PV

Sample Packet

Single Family Homes

Required Documentation

1. Plot Plan

2. Panel Layout w/required verbiage:

“No conduit, j-box or racks will be visible on the roof. All conduit will be routed through the attic and all panels will be flush mounted.”

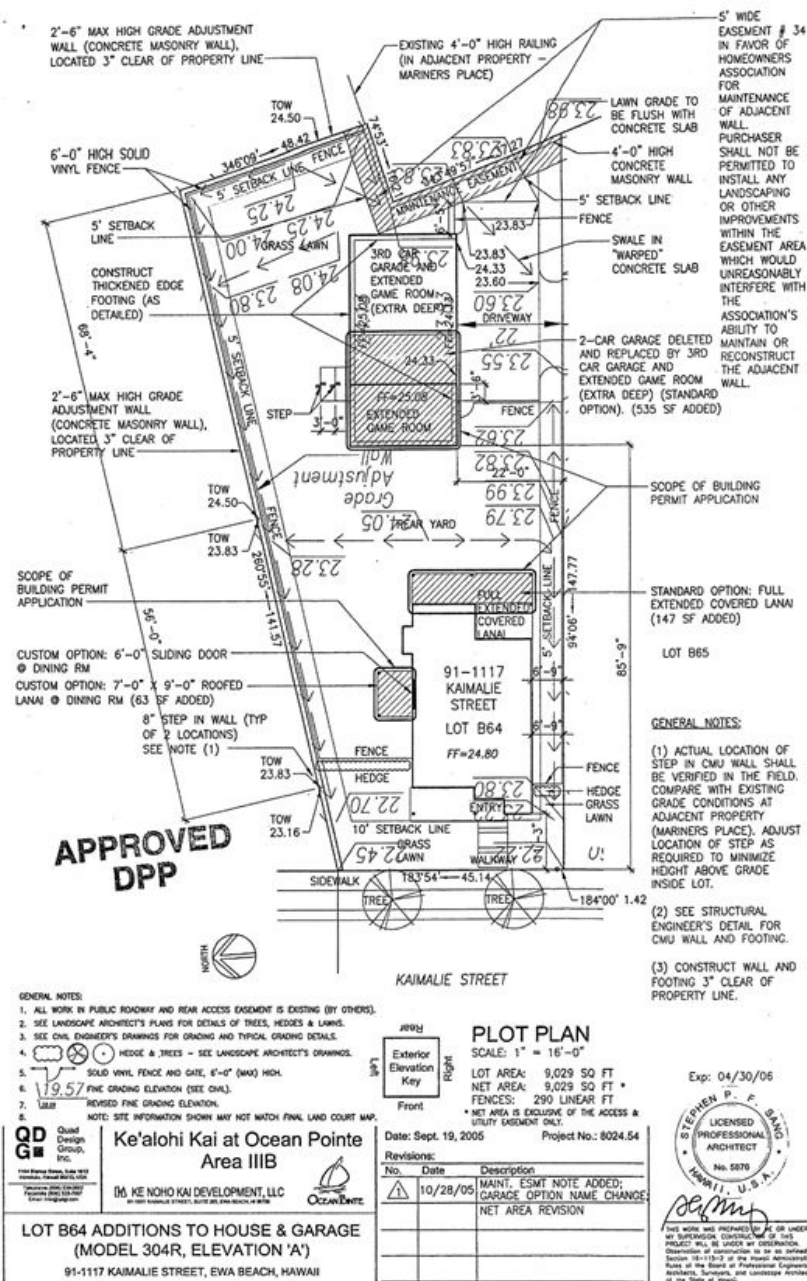
3. Conduit Run: Conduit must run in a straight line down from the attic (must show attic entry point) to the equipment, then along the base of the home to the HECO meter and disconnect. Must show full conduit run (conduit must be flushed to trim, window trim or at base of home) & is painted to match existing color of the home.

4. Color Photo Schematics: Must submit color photos of panel placement, equipment & conduit location to match Elevation Layout.

5. Equipment Elevation: All back & front equipment must be located below the fenceline & is painted to match existing color of home. Elevation Layout must match color photo schematics; Front conduit must fit between wall & fence. Conduit cannot go over fence & must be trenched at least 18” deep to back equipment; Only AC Disconnect & CGS Meter can be located next to HECO Meter.

5. Design Variances: If the proposed improvement has significant merit, the DRC may issue an approval together with a variance approval notice.

6. Equipment Spec Sheets: Provide all Manufacturer Specifications of all equipment & Panel.



Panel Layout

****No conduit, j-box or racks will be visible on the roof. All conduit will be routed through the attic. Panels will be flush mounted****

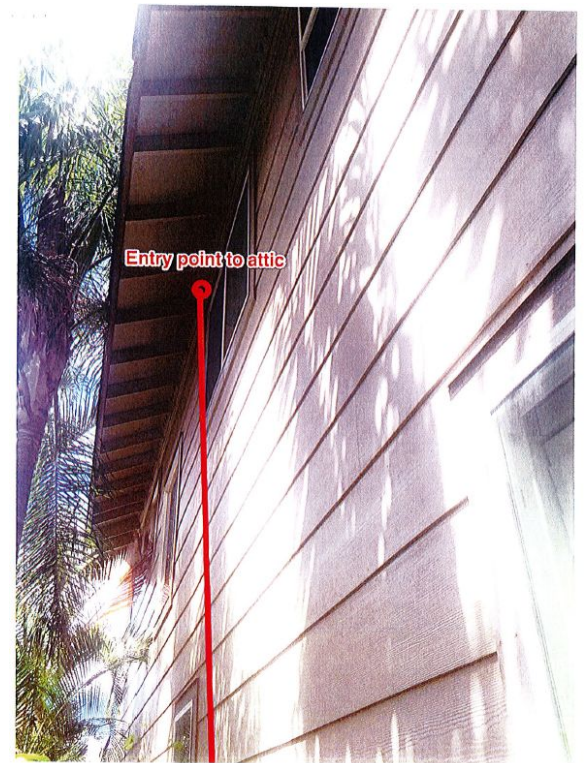
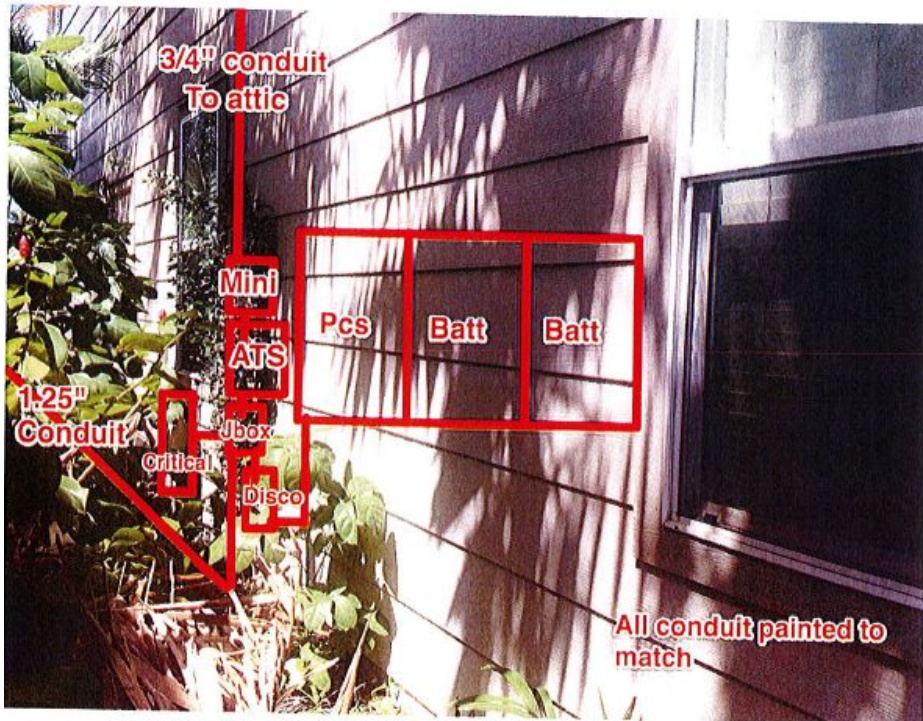


No conduit, J-box or excess racking will be visible on roof.
All conduit will be routed through attic and all PV modules will be flush mounted.

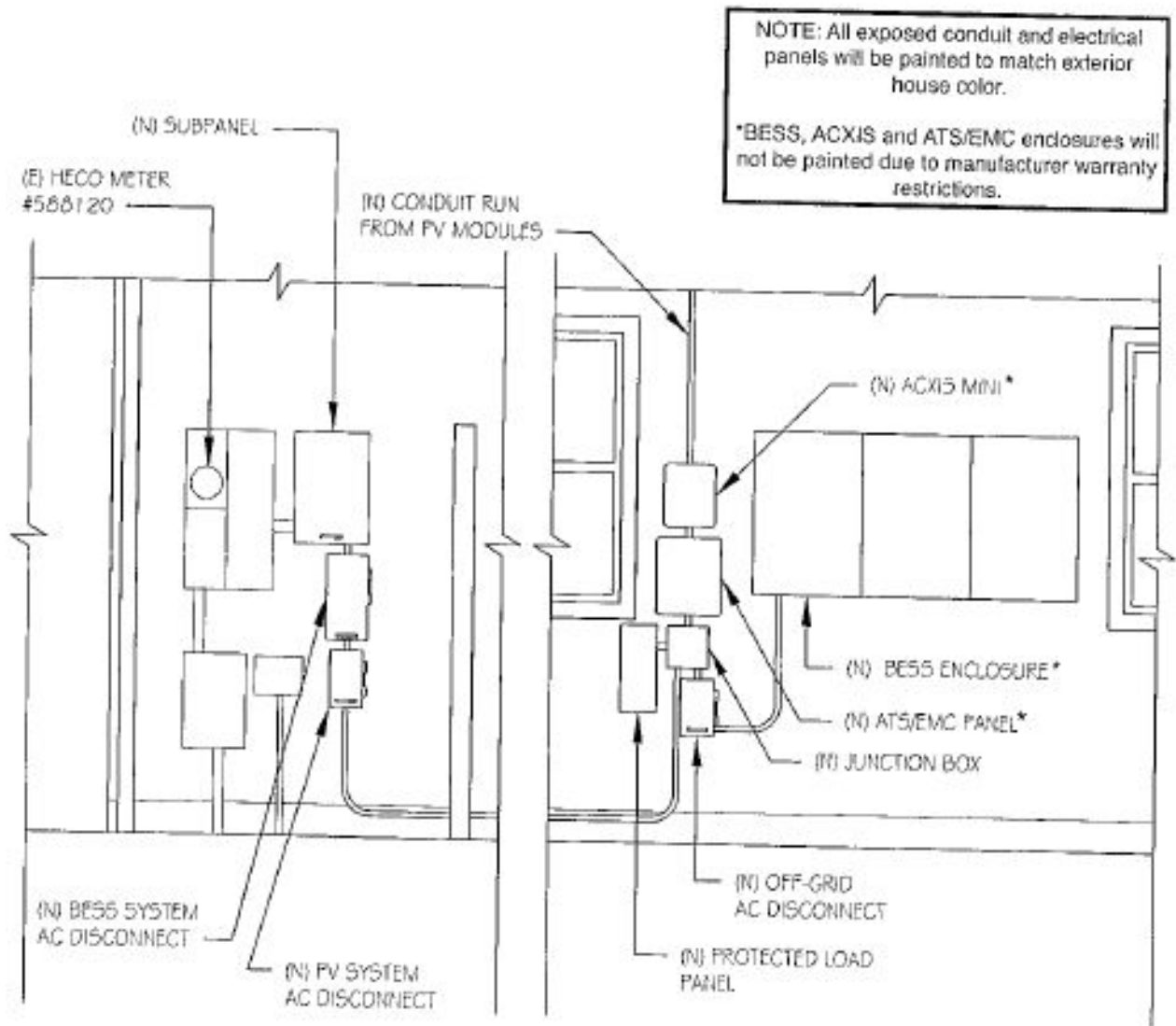
Module Quantity 26

Conduit Run





Equipment Elevation



ELEVATION

SCALE: NTS

Spec Sheets



ENERGY STORAGE IN YOUR CONTROL

Eguana's AC Battery is a certified, grid ready power control solution pre-integrated with industry leading Li-ion batteries. Our solution can be seamlessly integrated with a local energy management system or a distributed fleet control network using open communication protocols to provide a fully functional energy storage installation.

- Provides superior performance in utility grid applications, including:
- LG Chem Li-ion batteries with fully integrated battery management system



- PV Self Consumption
- Frequency Regulation
- Demand Response
- Feeder Voltage Support

- Reliable, high quality back-up power when you need it via an integrated transfer circuit for critical load operation

- Flexible battery capacities from two to six LG Chem battery modules

- Command the Eguana AC Battery via Sunspec-compliant Modbus interface using a third party energy management system/gateway



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5: Battery capacity shown in AC rated LG Chem M512P55 DC capacity is 6.5 kWh per module.

AC Specifications

Nominal AC Voltage / (Range)
240/120 V, split-phase / (211 to 254 VAC)
Nominal AC Frequency / (Range)
60 Hz / (59.3 to 61.5 Hz)
Rated AC Output Power / Current
5000 VA / 20.8 Arms
Max. Rated AC Current Protection - Grid
60 A
Max. Rated AC Current Protection - Load
60 A
Max. Rated AC Current Protection - PV
60 A
Power Factor
Fixed, or adjustable: 0.8 lead to 0.8 lag
Harmonic Distortion
≤ 5 %
Efficiency, peak (avg), %
96 (94.5)
Galvanic Isolation
Integrated transformer

Battery Specifications

	-07L	-13L	-19L	-26L	-33L	-39L
Manufacturer / Chemistry / Model	LG Chem / Lithium iron phosphate	LG Chem / Lithium iron phosphate	LG Chem / Lithium iron phosphate	LG Chem / Lithium iron phosphate	LG Chem / Lithium iron phosphate	LG Chem / Lithium iron phosphate
Rated AC Energy (kWh)	6	12	18	24	30	36
Maximum Capacity (kWh)	6.3	12.6	18.9	25.2	31.5	37.8
Charge/Discharge Current	0.5C Max. 0.2C Norm.					
DC-Volt Operating Range	42 to 58.8					
Cycle Life (50% DoD, 0-5C, 25°C)	4000					
Battery BMS	Built-in (self-diagnostic, control, and protection)					
Communication	Modbus RS-485					

General - Functions / Features

External Communication
HMI / Display
DC Protection
Lighting Protection
Grid Monitoring
Ground Fault Monitoring
Configurable Grid-riding Functions
Auxiliary Dry Contacts, x2
Back-up power critical load pass-through
PV coupling method

General - Performance

Grid Connect: Max power response rate
Grid Connect: Stop control resolution
Backup Power surge rating
Transfer power interrupt time
Self consumption (idling) sleep / operating

Mechanical Specifications

Operating temperature / humidity
Enclosure type
Cooling
PCB dimension / weight
Battery dimension / weight (per 60Wh)

Standards / Certifications / Warranty

EMC
Utility interface and safety
Warranty

ACB05U-XXX (base model -07L, see battery spec for models)

Fixed, or adjustable: 0.8 lead to 0.8 lag

96 (94.5)

42 to 58.8

4000

Built-in (self-diagnostic, control, and protection)

Modbus RS-485

Modbus RS-485 (optional: Zigbee)

Battery State LRD, Operating state LED, Wake/Sleep mode

Integrate 180 Amp Circuit Breaker

IEEE 02.14.2, Location Category B, Low exposure

Active in all states

DC grounded system configuration

Power reduction, reactive power control

Voltage and frequency ride through control (CPUC Rule 21)

240V, 10A rated, programmable

240V, 60A rated (120V / 120A)

AC

zero to full scale (up/down) = 1 second max.

6 W (0.1% full scale)

100% continuous, 120% (30 minute), 170% (5 seconds)

Back-up to grid: no interrupt. Grid to back-up: 2 seconds

3 Watts / 30 Watts

-10 to 45°C / 95% (non-condensing)

NEMA 3R, Watertight (Indoor/Outdoor)

PCB: active cooling, Battery: convection

029 x 763 x 397 mm (20.8" x 30.8" x 15.6") / 65 kg (145 lbs)

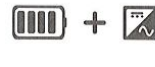
572 x 763 x 397 mm (22.5" x 30.8" x 15.6") / 85 kg (188 lbs)

FCC, part 15-B

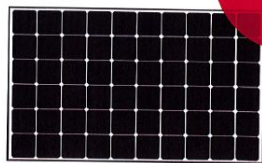
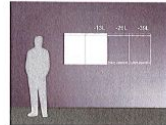
UL 1741SA, IEEE 1547, UL 1973, Rule 21 (CA), Rule 14H (HI)

10 year standard warranty

About Eguana Technologies
Based in Calgary, Alberta, Canada, Eguana Technologies (EGT) TSO-V designs and manufactures high performance power electronics for residential and commercial energy storage systems. Eguana has more than 15 years experience delivering grid edge power electronics for fast cell, photovoltaic and battery applications, and delivers proven, durable, high quality solutions from its high capacity manufacturing facilities in Europe and North America. With thousands of its proprietary energy storage inverters deployed in the European and North American markets, Eguana is the leading supplier of power controls for solar self-consumption, grid services, and demand charge applications at the grid edge.



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Innovation for a Better Life

LG NeON R LG6001GAS

60 cell

LG NeON R is now powerful product with global top level performance. Applied new cell structure without electrodes on the front, LG NeON R maximized the utilization of light and enhanced its reliability. LG NeON R demonstrates LG's efforts to increase customers' values beyond efficiency. It features enhanced warranty, durability, performance under real environment, and aesthetic design suitable for roofs.



Enhanced Warranty
LG now offer 25 years product warranty to accommodate performance warranty as well. LG NeON R has an enhanced performance warranty. After 25 years, LG NeON R is guaranteed at least 87.0% of initial performance.



High Power Output
The LG NeON R has been designed to significantly enhance its output making it efficient even in limited space.



Aesthetic Roof
LG NeON R has been designed with aesthetics in mind. No electrode on the front that makes new product more aesthetic. LG NeON R can increase the value of a property with its modern design.



Outstanding Durability
With its newly reinforced frame design, LG NeON R can endure a front load up to 5000 Pa, and a rear load up to 5400 Pa.



Better Performance on a Sunny Day
LG NeON R now performs better on a sunny days thanks to its improved temperature coefficient.



Near Zero LID (Light Induced Degradation)
The n-type cell used in LG NeON R has almost no boron, which may cause the initial performance degradation, leading to less LID.

About LG Electronics

LG Electronics is a global player who has been committed to expanding its capacity based on solar energy business as its future growth engine. This understanding is a solar energy strategy research program in 1993, respectively. LG Group, its research and development (R&D) strategy and research activities. We successfully introduced the NeON R series to the market in 2015, which were expected to be commercialized after 2 years thereafter. In 2015, NeON R (currently known as NeON R) was selected as the "Most Innovative" product in the "Solar Energy" category, which provided us the honor of innovation in the industry.

LG NeON R LG6001GAS

Mechanical Properties

Cells	60 x 10
Cell Vendor	LG
Cell Type	Monocrystalline / N-type
Cell Dimensions	161.7 x 161.7 mm / 6.36 inches
Dimensions (L x W x H)	1702 x 1134 x 45 mm
Weight	86.33 x 45.0 x 1.57 cm
Front Load	5000 Pa / 125 psf
Rear Load	5400 Pa / 113 psf
Weight	18.1 kg / 40.79 lb
Connector Type	M12
Junction Box	IP68 with 3 bypass diodes
Length of Cables	1000 mm x 2 ft
Glass	High Transmission Tempered Glass
Frame	Anodized Aluminum

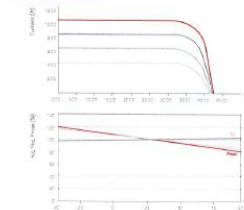
Certifications and Warranty

Certifications	IEC 61215, IEC 61730-1+2, UL 1703, IEC 61701 (Rat max. commission), IEC 61716 (Ammonia commission), ISO 9001
Module Fire Performance (UL950)	Type 1
Fire Resistance Class (CANADIAN)	Class C (ULC / DIN C17E3)
Product Warranty	25 years
Output Warranty of Power	Linear warranty**

Temperature Characteristics

NOCT	45 ± 3 °C
Pmp	0.80 W/m²
Voc	-0.21 W/m²
Isc	0.03 A/m²

Characteristic Curves



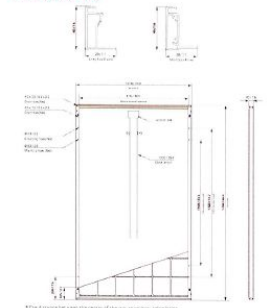
Electrical Properties (STC*)

Module	360
Maximum Power (Pmax)	355
MPP Voltage (Vmpp)	35.5
MPP Current (Impp)	9.87
Open Circuit Voltage (Voc)	42.7
Short Circuit Current (Isc)	10.79
Module Efficiency	22.0
Operating Temperature	-40 ~ +85
Maximum System Voltage	1500
Maximum Series Fuse Rating	20
Power Tolerance (%)	± 3

Electrical Properties (NOCT*)

Module	360
Maximum Power (Pmax)	271
MPP Voltage (Vmpp)	33.4
MPP Current (Impp)	7.85
Open Circuit Voltage (Voc)	43.2
Short Circuit Current (Isc)	8.83

Dimensions (mm/in)



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Product specification and performance are subject to change without notice.
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