

# Evolve

## Home Energy Storage



Evolve with 13 kWh capacity shown.

*and stay*  
~~Evolve or go home.~~

Engineered from the ground up, Eguana Technologies introduces the Evolve, a fully automated home energy storage solution that maximizes the value of a home owner's solar system investment. Solar self-consumption is complemented with programmable time-of-use priority where applicable. When the lights go out in your neighborhood, we've got your critical loads covered with an integrated back up power solution that keeps your batteries topped up from your rooftop solar system.



- Up to 5 kW of generation.
- Fully supported grid tied and backup operation with automated transfer.
- Simple, flexible installation fully compatible with leading solar PV system suppliers.
- Industry leading lithium battery technology.
- Automated PV curtailment for extended duration grid outages.
- All-in-one solution includes an integrated energy meter and SwitchDin Droplet™.
- 10 year industry standard warranty.

## Leading battery technology you can **Trust**.

Under the hood of Eguana's Evolve home energy storage product is the global leader in lithium battery technology. LG Chem's battery modules with integrated battery management system warrant a 19.2 MWh energy throughput\*, providing over a decade of use in a solar self-consumption application.

\* per 6.5 kWh module.



## Universal PV compatibility.

Eguana's AC coupled topology is designed for compatibility with any solar PV string or micro inverter. The passive connection to the battery system is simply to manage the energy use when connected to the grid. In backup mode, the solar PV system synchronizes to the home storage AC output for backup mode battery charging. Independent solar system operation results in a superior, flexible system design for both new and retrofit solar installations.

## New or Retrofit solar PV installs.



## All **eyes** on your home energy consumption

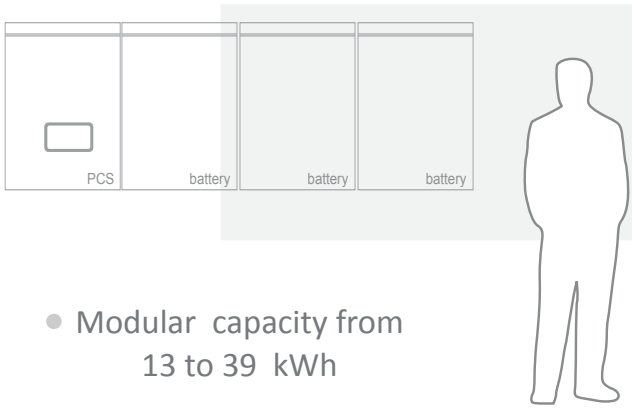
Every Evolve system is pre-integrated with a SwitchDin Droplet™. Managing your consumption of solar generation is backed by an array of monitoring features via the SwitchDin Stormcloud™. Track your generation, storage and consumption data all under one dashboard. Customizable battery management alerts allow you to make decisions about your energy consumption to save you money. See your actual energy costs and savings in real time based on tariffs in your region.



# Stackable storage.

With standard 13 kWh battery capacity, your system is tuned for optimal grid tied operation with up to 5 kW of rooftop solar.

If power resiliency is a high priority for you, battery capacity can be easily expanded up to 39 kWh, with two additional battery cabinets.



## 24/7 Power for your essential loads.

Essential home loads are kept alive during grid outages with a fully automatic transition to backup power mode. Solar powered charging of the battery in backup mode allows you to ride through multi-day grid outages, sunlight permitting. Low battery warnings can be configured via email notification so that you can prioritize and manage your most critical loads before the system goes into hibernation. In the case of battery system hibernation, the system will maintain a minimum battery reserve to re-attempt solar charging in the next available solar window.



### Backup mode Optimization

The following is an estimate of daily energy use during a grid outage.

Refrigerator, daily	2 kWh
Kitchen appliances, 30 min/day (excluding oven/range)	2 kWh
Entertainment, 2 hrs/day (including big screen TV, computers, electronic devices.	1 kWh
Lighting, 8 hrs/day (LED, CFL)	0.5 kWh

## Protecting your investment.

Getting a lifetime of value from your battery is our priority. We start by qualifying your installer with a manufacturer certified training program. We equip your installer with a host of online data analytic and battery system health tools which empowers them to provide remote diagnostics in the event of a service request, and deliver fast and efficient service when necessary. Last but not least, unlike many of today's consumer IoT devices, we have put in place industrial sized network security measures to protect your battery's operating system from outside intruders.



## Future friendly.

Your Evolve home energy storage system is certified to the latest smart grid standards. In addition, the SwitchDin Stormcloud™ application has tools in place that allow your system to participate in future energy program incentives offered by your electricity provider. Ask your installer to keep you posted on any local opportunities which may allow you to earn more value from your battery as part of a larger community of home batteries.



## Specifications

PCS electrical & performance data, AC	
Grid voltage, frequency	230 / 240 Vac, 50 Hz
Maximum continuous operating current, A	21.7 Amps
Maximum continuous operating power, VA	5000 VA
Power factor, nominal (range)	> 0.99 (0.8 lead to 0.8 lag)
Efficiency, % peak (average)	96 (94.5)
Maximum AC fault current and duration (short circuit)	248 Apk, 7.97 Arms for 0 to 50ms
Galvanic isolation	transformer
AC connections, number (type)	2 (grid, backup)
Maximum output overcurrent rating	63A maximum (grid and backup ports)
PV solar coupling method	AC only (PV inverter not included)
PCS self consumption power, sleep (operating)	6.4 W (30 W)
Backup power surge rating	170 %, 3 seconds
Lightning protection	IEEE 62.41.2, location category B, low exposure
Active anti-islanding method	Sandia frequency shift
Protective class (I, II, or III)	Class I
Over-voltage category (OVC I, II, III, or IV)	OVC III
PCS general data	
Width x Height x Depth	529 mm x 783 mm x 397 mm
Weight	65 kg
Protection type	IP34
Ambient temperature (relative humidity)	-40°C to +50°C (95 %)
Cooling method	Fan, thermostat control
Installation type	Wall-mount (upright)
PV solar coupling method	AC only (PV inverter not included)
DRED device support	DRM 0 to DRM 9
Ground fault monitoring	DC negative grounded
Lightning protection	IEEE 62.41.2, location category B, low exposure
Display	LED: battery SOC, grid connect state, service state
Battery electrical and performance data	
Battery module manufacturer, model, chemistry	LG-Chem, M48126P3S, lithium NMC
Rated energy, AC, kWh (1C)	1218243036
DC voltage operating range	42.0 to 58.5 Vdc
Battery lifetime energy guarantee, per module	19.2 MWh
Circuit protection, integrated	Breaker, 180 Adc, positive pole
Battery general data	
Width x Height x Depth	572 mm x 783 mm x 397 mm
Weight, including two battery modules	103 kg
Protection type	IP34
Ambient temperature (relative humidity)	-10°C to +45°C (95%)
Cooling method	Convection
Installation type	Wall-mount (upright)
Energy management system	
Controller	SwitchDin Droplet™
Interface	SwitchDin Stormcloud™
Certifications & Warranty	
EMC	IEC 61000-6-2, IEC 61000-6-3
Utility interface	AS/NSZ 4777.2: 2015, VDE DIN-AR-4105: 2011-08
Safety	IEC 62109-1/-2, IEC 62477-1, IEC 62040, G59/3-2
Warranty	10 year standard

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### About Eguana Technologies

Based in Calgary, Alberta, Canada, Eguana Technologies (EGT: TSX.V) designs and manufactures high performance residential and commercial energy storage systems. Eguana has nearly two decades of experience delivering grid edge power electronics for fuel 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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