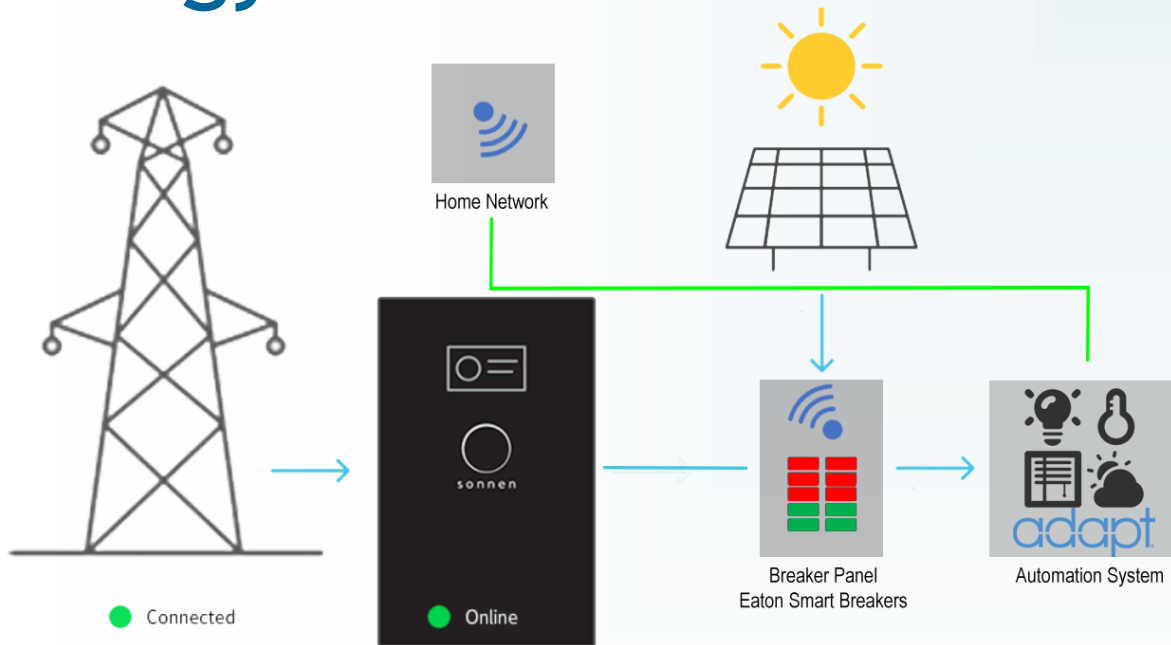


adapt

Energy Automation

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What is Energy Automation

Energy Automation is the convergence of home automation, intelligent energy storage, intelligent breakers and solar technologies all working seamlessly together. Managing energy use and production along with lighting, climate, shades and other home systems is the ultimate smart home! The operation of a smart home can be significantly enhanced when it's done from an energy perspective. Traditional home automation systems center the experience on providing comfort to the home owner by tailoring the system to their specific wants and needs. Smart homes with energy automation take this experience to another level as it's set to manage the energy functions of the home without the need for home owner interaction.

For the first time in our industry we have an intelligent energy storage system called the [sonnen ecoLinX](#) that allows ADAPT to gather information about the homes energy usage and storage as well as weather data, solar production data and much more. This information allows the ADAPT system to make smart decisions for the home owner relative to the systems in the home.

Perfect Power

Another benefit of adding [sonnen ecoLinX](#) to the home is the perfect power it creates. It's truly the best insurance policy you can have for the hundreds of thousands of dollars our clients are spending on the technology they're putting in their homes. No longer will you deal with brown outs causing major problems for electronics. You're able to power devices with perfectly regulated, always on, clean power no matter what the grid is doing. And if the grid becomes unstable your devices remain in their happy state receiving perfect power from the [sonnen ecoLinX](#) battery.

What's in an Energy Automation System

The ultimate smart home is driven by energy automation. To reap the benefits of energy automation, it is important that the [sonnen ecoLinx](#) "energy ecosystem" include a combination of the following home automation and renewable energy devices:

- [sonnen ecoLinx](#): This is your energy automation manager. Manages all controllability use cases related to dynamic energy changes.
- ADAPT software: Home automation bridge enabling the [sonnen ecoLinx](#) to reach a robust control network of devices within the smart home.
- Renewable Energy Source (solar): Alternative source of energy to offset potential loss of grid power.
- Lighting Control: Manage lights accordingly during power-related events
- Shade Control: Manage shade scenes to reduce exposure to natural light and lower internal heat
- Climate Control: Manage setpoints of the HVAC systems relative to grid loss or other events
- Intelligent circuit breakers (Eaton): Obtain power use data and offer direct control of power of devices
- AV Systems: Enunciation and Notification of such power-relevant events in a seamless fully integrated solution

Use Cases for Energy Automation

Smart Configurable Backup

Users with Eaton's EMCB's, [sonnen ecoLinx's](#) battery and an ADAPT home automation system can benefit from the [sonnen ecoLinx's](#) smart configurable backup functionality. The image above details a main panel install which allows for dynamic smart configurable backup strategies with Eaton's EMCBs. This allows the system to not only focus on managing excess energy production over what is consumed but further tailor the consumption based on need and priority defined by the homeowner. In the event of a power outage, the system will provide backup power to the energized circuits. Which circuits get energized are part of pre-defined rules defined by the ADAPT system. An example scenario is presented below:

A power outage occurs and the [sonnen ecoLinx](#) begins providing backup power to the main panel (which is also powering the home network equipment). The user would then be presented with a notification from ADAPT indicating the [sonnen ecoLinx](#) is now providing backup power to the main panel. The user is then presented with options for what they want to power with the [sonnen ecoLinx](#) battery. If no option is selected, the system can be configured to default to a predefined mode of operation.

The [ecoLinx](#) and home automation system then send the profile to the intelligent circuit breakers, which actuate the selected circuits to an on or off position based on the users selection or predefined mode of operation.

Use Cases for Energy Automation -cont.

Smart Weather Forecasting

This **sonnen ecoLinx** feature makes use of weather forecast information from ADAPT to dynamically modify the battery's backup reserve setting. For example, if the ADAPT system detects a severe thunderstorm warning in the user's area, the system will automatically increase the **sonnen ecoLinx** unit's energy reserve percentage 100% to prepare the user for the incoming storm and potential loss of grid power.

This further enhances the level of flexibility as it then can reserve the battery capacity for backup when it is really needed.

Smart Demand Control and Load Management

The ADAPT Energy Automation system optimizes the use of available clean energy when it is abundant and cheap (during low tariff times for example) and limits the use of energy when clean energy is scarce, and grid energy is expensive (during peak periods for example). This means the **sonnen ecoLinx** works with ADAPT to decrease load usage and discharge the battery when appropriate.

Let's say a customer wants to employ their **ecoLinx** in daily cycling during their time-of-use (TOU) window to effectively "flood the peak". In a TOU scenario, the ADAPT system could employ load shedding to maximize the amount of energy the **sonnen ecoLinx** can provide during the peak period. If, for example, the ADAPT Energy Automation system lowered the shades, dimmed the lights, increased the thermostat, and turned off non-essential loads that could decrease consumption by 2,000 W. On a 10 kWh **sonnen ecoLinx**, that is an additional 2 hours' worth of energy!

The Future (The Holy Grail)

Our need for power isn't decreasing and the cost of power continues to rise. The utility companies in the U.S. are struggling to keep up with the demand especially during peak times of the day. For years they've been looking for ways to help homeowners decrease their power usage by a specific amount during peak times. Until now, this hasn't been possible at the level the utility company needs. It's called Demand Response and it's almost here!

The ADAPT Energy Automation system working together with **sonnen ecoLinx** and Eaton's intelligent circuit breakers will know how much power each dedicated circuit is using and how to adjust the home's power usage to enable an economically efficient level for both the home owner and utility. This is the Holy Grail for the utility companies. Once a home is capable of this level of demand response, the home owner could see a dramatic decrease in their energy costs without ever feeling like their lifestyle is impacted. Everybody wins!



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Steps to become an ADAPT Energy Automation Dealer

1. Be a Crestron Dealer
2. Become an ADAPT Dealer to get access to the [sonnen ecoLinx](#) driver
3. Work with sonnen to become an ecolinx dealer (we can help with this)
4. Work with the ADAPT design engineers to design your Energy Automation system
5. Work with the ADAPT design engineers to obtain the Eaton (EMCB's)

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For assistance with ecoLinx sizing and system design, contact sonnen's applications engineering team:

Email: design@sonnen-batterie.com

For more information on Eaton EMCBs:

General information: <https://eaton.com/emcb>
Support and contact information: <https://eaton-emcb.com/help>