

EcoStruxure™

Innovation At Every Level



EcoStruxure Microgrid Solution for Small & Medium Buildings

Connect, monitor, and control your site's Distributed Energy Resources (DERs) to enhance resiliency and reduce your energy cost

EcoStruxure Microgrid Solution for Small & Medium Buildings is a complete solution leveraging Schneider Electric Microgrid EMS and PMS inside the Energy Control Center to facilitate DERs integration at the site. It operates to supply power to the site's loads in case of an unexpected power interruption and optimize the energy bills when connected to the grid. Below is the list of use cases which can be selected:

Remote Monitoring & Forecasting

Schneider Electric EMS, EcoStruxure Microgrid Advisor (EMA) allows site managers to visualize their site DERs remotely with internet access via computer, tablet, or smart phone while tracking energy savings and CO2 emissions with available KPIs.

Tariff Management

Tariff Management allows to efficiently control and manage DERs based on a site's variable electricity tariffs. For instance, EMA will reduce the site's energy consumption or increase the site's energy production during expensive tariff periods.

Demand Response*

By accepting signals from a Commercial Aggregator Platform, EMA can perform Demand Response events, calling on the site's DERs and reducing demand to further monetize the value of flexibility to a utility.

Demand Charge Reduction

EMA controls DERs to reduce site power consumption during peak periods, determining when to consume, produce, or store energy.

Export Management

EMA controls various DERs to limit or unable the export of energy to the grid.

Self-Consumption

Using an energy storage system, EMA can leverage excess production from a local energy source (i.e. Solar PV) for consumption at a later time.

Offgrid Mode Preparation

The forecasting capabilities of EMA can be used to prepare the system at customer site for island mode, when there is a microgrid controller installed on site. EMA, by collecting weather forecast information, can calculate the probability to have a storm coming in the next 3 hours and prepare for an island event.

Grid Connection Management

Schneider electric PMS, EcoStruxure Microgrid Operation – Medium (EMO-M) monitors the grid status in real time and manage when to be grid-connected or in island mode in order to ensure the continuity of your business operation, whatever the grid status is.

Load Sharing

EMO-M active and reactive power sharing strategies provides regulation of frequency and voltage at a secondary level in the island mode.

Load Shedding

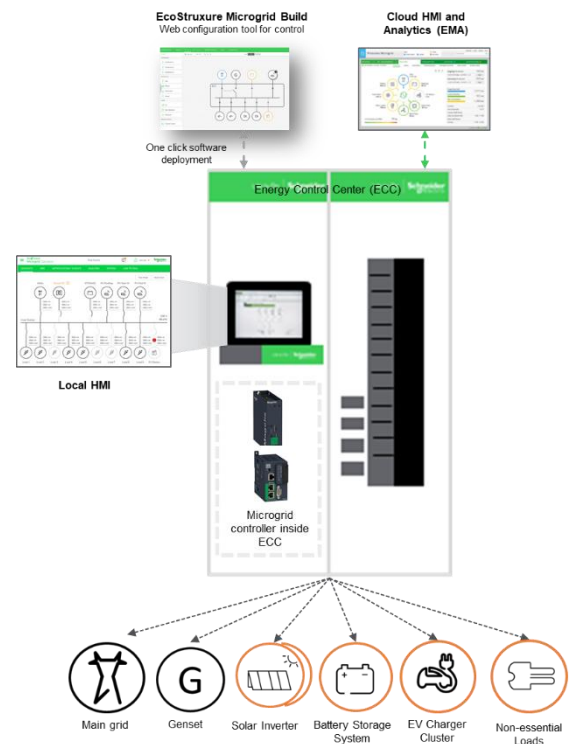
EMO-M load shedding functionality with load restore capabilities to maintain the system stability in islanded mode.

Remote Alarming

This feature sends notifications to site's managers via e-mail and/or SMS.

Local SCADA

Touchscreen capability on ECC simplifies the control and monitoring of DERs.



Cybersecurity

Advanced cybersecurity features compliant with standards below:

NERC-CIP, IEC 62443, IEC 62351-8 RBAC, BDEW, ANSII, IEEE 1686.

*Implementation on demand, dependent on your commercial aggregator

Energy Management System(EMS) :
EcoStruxure Microgrid Advisor (EMA)

Power Management System(PMS) :
EcoStruxure Microgrid Operation - Medium Sites (EMO-M)

TS: Transfer Switch

Architecture Capabilities

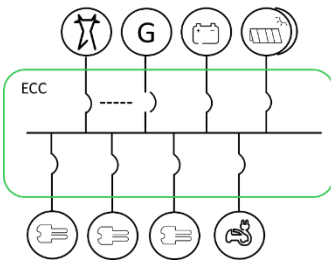
EcoStruxure Microgrid solution can integrate the following Distributed Energy Resources with the given communication protocol and the type of connection required:

DER/ Parameter	Utility Grid	PV Inverters	Genset	BESS	EV Loads	Simple Loads	Circuit Breakers	ATS
Max. number of units	1	15	1	1 (grid forming/ tied)	1 cluster manager	10 CB	12	1
Communication	Data from power meter/ breakers through Modbus IP	Modbus IP	Modbus IP or Hard Wired	Modbus IP	Modbus IP	Data from CB/ Modbus IP	Modbus IP	Hard Wired

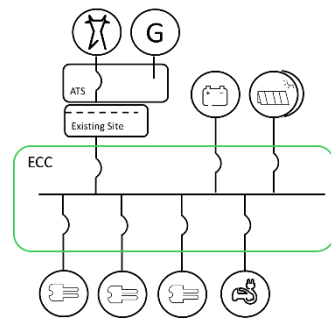
Microgrid Architectures

EcoStruxure Microgrid can support the following architectures:

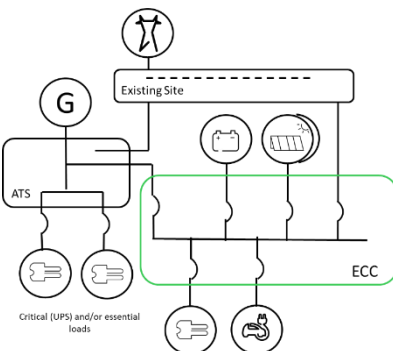
Greenfield or replaceable



Brownfield with Upstream ATS



Brownfield with Downstream ATS



If your project needs vary from the specifications provided, kindly contact Schneider Electric team for support.

ECC Specifications

Energy Control center components range from touchscreen interfaces and edge controllers running microgrid operations to utility grade protective relays and revenue-grade metering.

Technical Features	ECC 800, 1200	ECC 1600, 2000, 2500
Sections rated horizontal bus	-	2500A
Sections rated vertical bus	1200A	2500A
Single Mains	800A	1200A
Group Mounted Feeders	800A	1200A
NEMA enclosures	Type 1	Type 1 or Type 3R
Accessibility	front only	front and rear
Section Height	84"	91.5" with base channels
Section Widths	24", 26", 36", 42", or 44"	24", 36"
Frame Depth	10.5"	24"
Voltage	Upto 480 Y / 277 Vac	Upto 480 Y / 277 Vac
Factory Assembled	Yes	Yes
Surge Protective Devices (SPD)	Yes	Yes
Customer Metering	Yes	Yes

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