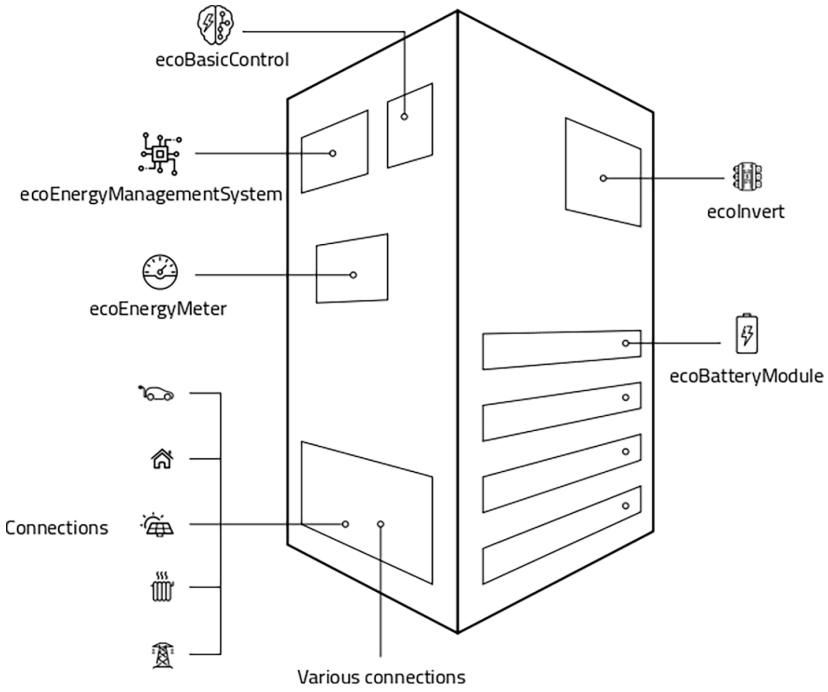
ecoBatterySystem

The ecocoach AG ecoBatterySystem provides a reliable way of storing the household's surplus solar energy and permits the direct regulation of all critical energy producers and consumers in the building. It has been developed specifically for optimising self-consumption in building applications. The energy flows can be viewed at any time and optimised extremely easily using the ecocoach app.



The standard ecoBatterySystem includes the following main ecocoach components:

ecoBasicControl
Central control unit with ecoCard E-Bus end terminal

ecoEnergyManagementSystem
Energy management system comprising various controls and functions for analysing and regulating the flow of energy

ecoEnergyMeter
Measures various parameters in relation to the connected energy producers and consumers

ecoInvert
Inverter for converting the energy

ecoBatteryModule
Battery module for storing the surplus energy

Connections
Connections for external energy producers and consumers

Various connections
Various other connection options, such as inputs, outputs and interfaces, see technical manual

The following energy producers and consumers can be connected (see production sheet):

- Electric boiler
- Generator
- Domestic grid
- Charging station
- Mains
- PV system
- Standard consumer
- Heat pump

Technical specifications	
Connections	
Connection options (see production sheet for details) • Domestic grid • Mains • PV system • Charging station • Electric boiler	• 230 V / 400 V AC • 50 Hz / 60 Hz • Max. 63 A (defined in production sheet) • Domestic grid: cos-phi 0.8 inductive / 0.8 capacitive (infeed mode) • Mains: used for generator connection in isolated mode
Other connections see chapter "Connection diagram (example)"	• 1x potential-free digital output for 'Start generator' (max. 230 V AC, 6 A) • 3x potential-free digital output 'Consumer' (max. 230 V AC, 6 A) • 1x potential-free digital output for 'Emergency power display' (max. 230 V AC, 6 A) • 1x potential-free digital output for 'Heating' (max. 230 V AC, 6 A) • 1x potential-free digital output 'ecoBatterySystem fault' (max. 230 V AC, 6 A) • 1x potential-free digital output 'Cooling/ventilation' (max. 230 V AC, 6 A) • 4x PT1000 temperature input (electric boiler temperature) • 4x analogue output (electric boiler power) (0–10 V) • 4x digital input (external emergency stop, generator fault, photovoltaic inverter fault, mains operator suspension) The ecoBatterySystem must be able to pick off a 24 V DC supply and feed it back again (the necessary terminals are provided).

General data	
Inverter (ecoInvert) Charge/discharge capacity	max. 0.5 C-rate
Inverter (ecoInvert) Efficiency	max. 96%
Inverter (ecoInvert) Storage capacity	• ecoInvert Studer small: 12 kW • ecoInvert Studer large: 24 kW
Cooling principle	Air-cooled
Cascading	• Master/slave function • Earth fault and grid monitoring • AC short-circuit capability and electrically isolated connections • Leakage current monitoring
Operating modes	• Mains operation • Emergency power-compatible (with additional mains isolator) • Isolated operation
External requirements	LAN connection
Measurement per domestic grid, mains connection, PV system, charging station, electric boiler	Separate power measurement per connection
Display	Shows battery charging status, operating mode, temperature, active error messages
Control	Commissioned using the ecoSetupTool via Ethernet (RJ45)
Control of ecoBatteryModule	CAN bus
Battery capacity	• ecoBatterySystem Small: max. 4 ecoBatteryModules, max. 26 kWh • ecoBatterySystem Large: max. 10 ecoBatteryModules, max 65 kWh
Floor loading	• ecoBatterySystem Small: at least 300 kg / 0.5 m^2 • ecoBatterySystem Large: at least 600 kg / 0.5 m^2
Protection class	IP20
Operating temperature range	-10°C to 45°C
Humidity	5-95% (non-condensing)
Standards and directives	CE, EN 61000-6-1:2007, EN 61000-6-3:2007 + A1:2011, EN 62477-1:2012, VDE-AR-N 4105 Application guide: 2011-08, ÖVE/ÖNORM E 8001-4-712
Dimensions (WxHxD)	ecoBatterySystem Small: 630 mm x 1400 mm x 825 mm ecoBatterySystem Large: 630 mm x 2070 mm x 825 mm
Control and optimisation	Using ecocoach app (mobile app and web app)
Visualisation of energy data	Using ecocoach app (mobile app and web app), data can be exported

Information is supplied without liability. Subject to changes.

ecoBatteryModule

INFORMATION
The following information is taken from the product specifications provided by LG. If you require further information, please contact LG Chem directly.

Technical specifications	
Manufacturer	LG Chem
Model	EM048126P3S7
Nominal capacity	6.5 kWh
C-rate of battery modules	0.5
Battery operating voltage	48 Volt DC
Cell type	$LiNiMnCoO_2$
Efficiency	95%
Self-discharge rate	< 6% a year at 25°C
Operating temperature	-10°C to 45°C
Weight	44 kg
Authorisations Battery cell	UL1642
Authorisations Battery module	CE / RCM / FCC / TUV (IEC 62619) / UL1973 / S-mark (JIS C 8715-2)
Dimensions (WxHxD)	• Without fastening: 445 mm x 110 mm x 586.6 mm • With fastening: 483 mm x 110 mm x 586.6 mm

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