



Elum Energy

ePowerControl ES/ES+

Energy Storage controller



Product description

Elum ePowerControl ES is an energy storage controller (energy management system dedicated to battery storage systems (BESS) eventually coupled with other energy sources such as PV or diesel generators.

ePowerControl ES uses an advanced control algorithm to manage battery charging strategy maximizing PV penetration, genset and battery bank life, and reduce diesel fuel costs.

It is suitable for a wide set of applications from islanded microgrid to grid connected self consumption applications or mixed applications.

Product Benefits

Engineering support

Remote engineering support during design and commissioning phases to ensure the best control layout.

Extended compatibility for system flexibility

Compatible with a wide range of Battery PCS, Solar inverters, meters, and third party sensors.

Proven reliability for safe operation

High-end hardware integration with reliable software development.

Product Features

SOC management: (grid-tied only)

Load-shifting, peak-shaving & time of use management by direct control of ESS system. Setpoints are directly configurable by the user.

Grid feed-in management (grid-tied only)

ePowerControl ES controller controls the active and reactive solar power at the point of common

coupling control to maximize solar penetration while avoiding any penalty from the grid operator. It can allow a maximum export or a minimum import matching end client requirements.

Multiple genset minimum loading (islanded or backup)

ePowerControl ES automatically adjusts solar inverters power according to the gensets load in order to increase solar penetration.

Genset Start/Stop management (islanded or backup)

ePowerControl ES manages to Genset Auto Start Stop when the BESS acts as the grid forming unit. Setpoints are directly configurable by the user.

Local configuration interface

ePowerControl ES embedded user configuration interface accessible through any local web browser (LAN) allows for configuration of plant connectivity and equipment integration. It autonomously performs all necessary configuration tests and configuration, in a guided step by step way. Raw communication error and command logs can be easily downloaded from the Elum Configuration interface to facilitate diagnosis.

Reliable datalogging

Collection and local secure storage of all data + alarms from equipment connected on site for over 100 days. When internet connection is lost, data is stored in an embedded database to ensure data integrity.

Data export & visualization

Data export over USB through the local interface. Data export to ePowerMonitor platform or compatible third-party platforms (FTP push).

Embedded network connectivity

ePowerControl ES can include a cellular modem compatible with main networks on EDGE/3G/LTE.

Technical Specifications

General information

	ES	ES +
Dimensions (cm)	101 x 27 x 128 mm	132 x 122 x 87 mm
Weight (without accessories)	0,3 kg	1,4 kg
Maximum BESS capacity	100 kWh	300 kWh
Max. number of devices total	32	64
PV inverters	16	32
BESS	16	32
Genset	1	2
Meters	4	16
Standards	EC 60068-2-27, IEC 61000-4-2/3/4/6/8, UL 60950-1, IK10, UL508A	

Ambient conditions

Temperature	-10 to 60 °C	-40 °C to 70 °C
Humidity	5% to 95% (non condensing)	

Power supply

Input parameters	12 to 24 VDC, 480 mA @ 12 VDC, 225 mA @24 VDC	
Power consumption (max)	20W	50W
UPS	Optional - 19,2 / 81,6 / 288 Wh (Up to 24h autonomy)	

Communication & security

Compatible protocols	Modbus TCP/RTU, Solivia	
Available ports	2 x serial (RS485/RS422/RS232) 2 x LAN (RJ45 - 100 Mbps) 2x USB 2.0-A	4 x serial (RS485/RS422/RS232) 4 x LAN (RJ45 - 1,000 Mbps) 1 x VGA / 2x USB 2.0-A
Embedded modem	LTE/HSPA+/GSM/GPRS/EDGE/EV-DO	
Remote access	ePowerMonitor / 3rd party platforms (VCOM, QOS, S4E)	

Other interfaces

Extensions (I/Os, RS485, weather station)	2 modules max	4 modules max.
Power measurement	From compatible meter models only ¹	

Data acquisition

Collected data	Active / reactive power, current, voltage, ... ²	
Equipment alarms	Mail & web notifications, configurable thresholds on all read variables	
Data acquisition granularity	5 minutes for data, real-time for alarms ³	
Data storage / export	8Go (up to 256Go) - >100 days of data stored / USB CSV export	32Go (up to 256Go) - >100 days of data stored / USB CSV export

¹ See meter compatibility list for more information.

² The list is not exhaustive as available registers/alarms depend on each hardware.

³ Varies based on equipment communication protocols and physical connectivity.