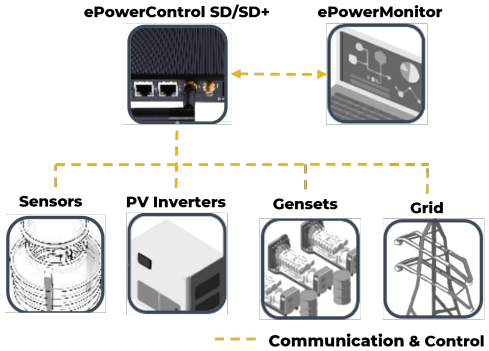
ePowerControl SD/SD+

Solar-Diesel integration controller

PRODUCT DESCRIPTION

ePowerControl SD/SD+ is a solar-diesel integration controller, allowing for a safe, simple, and easy integration of solar plants with a single (SD) or multiple diesel gensets (SD+) and grid systems.



PRODUCT FEATURES

eConf[2] : Intuitive commissioning interface & pre-configured communication drivers library: configuration via any local web browser for quick setup and commissioning, with a drop-down list of common devices for faster configuration.
Log: View and download error logs and setpoints history from the “Logs” page for easy diagnosis.
Power Flow Graph: Real-time visualization of energy flows between sources and loads, enabling quick monitoring, trend analysis, and troubleshooting through live power data and device statuses.

Grid feed-in management

Optimizes solar power generation to maximize PV production, **while ensuring zero export to the grid**, thereby maintaining compliance with grid operator regulations to avoid penalties.
It also enables **controlled grid feed-in** based on operator-defined targets and grid standards.

Minimum genset loading

It automatically adjusts the PV production to achieve maximum PV penetration while ensuring that the gensets* do not operate below their minimum loading required.
**Up to 4 Gensets with SD+*

PRODUCT BENEFITS

1. **Guaranteed interoperability:** with a large number of devices (inverters, ev chargers, ESS, gensets controllers, meters, sensors, etc.). Integrates with MODBUS TCP/RTU and offers additional protocol support upon request[1].
2. **Multi-brand compatibility:** ensures a homogeneous and uniform management of your installations by mixing different brands for more flexibility during project design & engineering phases.
3. **Effortless commissioning :** reduced commissioning time and cost with an user-friendly configuration interface (eConf[2]).

Reactive power management *(SD+ only)*

It enables reactive power management based on power factor. It dynamically controls reactive power to adjust the power factor at PCC or genset level within a given range.

Failsafe strategy

Includes a fail-safe mode triggered by communication loss with critical components of the plant. This ensures equipment protection and compliance with operational standards until normal communication is restored.

Manual setpoint setting

Efficiently manage your system by dynamically adjusting setpoints manually for all linked devices locally through a single embedded interface.

Reliable data logging

Prioritizing data security, it ensures reliable acquisition and logging from all on-site devices. Secure local storage is complemented by an embedded database, guaranteeing data integrity.

Data export & visualisation

Multiple ways for data export and visualisation available:

- **Locally,** through Elum's eConf[2] platform, via USB or Embedded Modbus Server (to connect to 3rd party Modbus master).
- **Remotely,** using Elum ePowerMonitor[3] or compatible third-party monitoring platforms (FTP push, API integration).

1. Refer to the compatibility list for more details.
2. is a user-friendly tool for configuring Elum loggers and controllers, find more details here : eConf.
3. is a data-visualization platform for managing multi-energy sites, find more details here : ePM.

TECHNICAL SPECIFICATIONS

GENERAL INFORMATION	SD	SD+
Dimensions (mm)	Base module - 101 x 27 x 128 (with casing - 300 x 300 x 150)	
Weight (base module)	224 g	
Capacity max in kWp (indicative)	300	
Max. number of devices PV inverters Genset Meters IO modules Grid Connections (point of injection)	**32** 16 1 4 2 1	**32** 16 4 4 2 2
Standards (base module)	IEC 60068-2-27, IEC 61000-4-2/3/4/6/8, UL 60950-1	
Installation	DIN rail mounting	
Protection class (for optional wall mounting kit)	IP 66	

AMBIENT CONDITIONS	
Temperature	-10°C to 60°C
Humidity	5% to 95% (non condensing)

POWER SUPPLY	
Input parameters	12 to 24 VDC, 480 mA @ 12 VDC, 225 mA @24 VDC, without casing 100 - 240 VAC, 50 Hz / 60 Hz, with Elum casing
Power consumption (max)	20W
UPS	Optional - 19,2 / 28.8 / 76,8 / 172.8 / 288 Wh (Up to 24h autonomy)

COMMUNICATION	
Compatible protocols	Modbus TCP/RTU[1] (Other protocols can be configured upon request)
Available ports	2 x serial (RS485/RS422/RS232); 1 x LAN (RJ45 - 100 Mbps); 1 x USB 2.0-A
Cellular modem	Optional - LTE/HSPA+/GSM/GPRS/EDGE/EV-DO
Remote access	eConf[2] / ePowerMonitor[3] / 3rd party Monitoring Platforms (FTP Push)

OTHER INTERFACES	
Extensions (I/Os, RS485)	Optional - max. 2 modules (8 I/Os per module / 2*RS485 per module)
Power measurement	From compatible meter models only [1]

DATA ACQUISITION	
Collected data	Active / reactive power, current, voltage...[4]
Equipment alarms (with ePowerMonitor[3])	Mail & web notifications, configurable thresholds on all read variables
Cloud storage granularity	10 minutes for data on ePowerMonitor[3], 5 minutes for data on some third party platforms, real-time for alarms[5]
Control loop duration	Default 5 seconds, can be optimized to 1s or 500ms depending on system configuration and number of connected devices
Data storage	8GB ->100 days of data stored
Data Export	USB CSV export/FTP/FTPS standard, EnergySoft, QOS, Meteocontrol

1. Refer to the compatibility list for more details.
2. is a user-friendly tool for configuring Elum loggers and controllers.
3. is a data-visualization platform for managing multi-energy sites.
4. Sample list. Data will be in accordance with the connected device.
5. Varies based on equipment communication protocols and physical connectivity.

For more information about the product