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+).

PRODUCT BENEFITS

- **Reduced commissioning time and costs** with plug & play deployment and intuitive user-friendly configuration interface.

- **Compatibility and Interoperability** with a large number of devices (inverters, genset controllers, meters, sensors...). Possibility to mix different brands offering more flexibility during project design & engineering phases. Main protocol : MODBUS TCP/RTU.

PRODUCT FEATURES

Grid feed-in management
ePowerControl curtails the right amount of solar power to **enable a maximum PV production, while ensuring zero export to the grid**, thus avoiding penalties from the grid operator.
It also allows **to feed power into the grid**, in accordance with the grid operator guidelines and standards, as well as the ability to set grid targets autonomously by the operator.

Genset minimum loading
It automatically adjusts the PV production so as to have a maximum PV penetration while ensuring the gensets* do not run below the minimum loading value.
Up to 4 Gensets with SD+

Reactive power management *(SD+ only)*
It enables reactive power management through power factor. Reactive power is controlled dynamically to regulate PF at PCC or genset level within a given range.

Intuitive configuration & commissioning tool
An intuitive easy-to-use user configuration interface, is accessible locally (LAN) through any web browser, allowing for a fast autonomous configuration and commissioning of the controllers (plant setup & linked devices). Error messages and setpoints follow-up can be viewed and downloaded from the "Logs" page for easy diagnosis.

Failsafe strategy
When the communication is lost with the main devices, the failsafe mode is activated for safety reasons.

Reliable data logging
It guarantees a reliable data acquisition and logging from all linked devices on site (meters, solar inverters, genset controllers, weather stations (irradiance/t°), and I/O modules), & offer a secure local storage. When internet connection is lost, data is stored in an embedded database to ensure data integrity.

Settings local edition
With ePowerControl embedded interface you can edit setpoints of all linked devices locally, on one interface.

Data export & visualisation
It offers multiple ways for data export and visualisation :
- Locally, over USB,
- Locally, over Modbus gateway (to connect to 3rd party Modbus master).
- Remotely, using Elum ePowerMonitor or compatible third-party monitoring platforms (FTP push, API integration).

⧉ 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	**32** 16 1 4	**32** 16 4 4
Standards (base module)	IEC 60068-2-27, IEC 61000-4-2/3/4/6/8, UL 60950-1	

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); 2 x LAN (RJ45 - 100 Mbps); 1 x USB 2.0-A
Embedded modem	Optional - LTE/HSPA+/GSM/GPRS/EDGE/EV-DO *(No wifi)*
Remote access	ePowerMonitor / 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...[2]
Equipment alarms (with ePowerMonitor)	Mail & web notifications, configurable thresholds on all read variables
Data acquisition granularity	10 minutes for data on ePowerMonitor, 5 minutes for data on some third party platforms, real-time for alarms[3]
Data storage	8GB (optional 32GB) - >100 days of data stored
Data Export	USB CSV export

1. Refer to the compatibility list for more details.
2. Sample list. Data will be in accordance with the connected device.
3. Varies based on equipment communication protocols and physical connectivity.