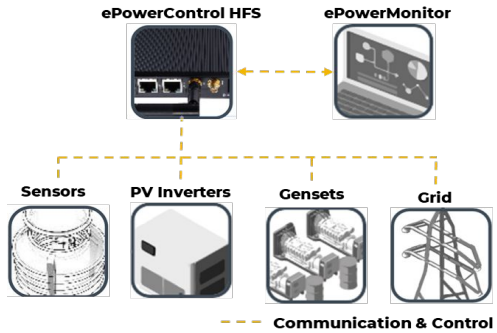
ePowerControl HFS Series

Hybrid Fuel Saver controller

PRODUCT DESCRIPTION

ePowerControl HFS is a solar-diesel integration solution allowing for a safe and simple integration of solar plants on existing/greenfield diesel power plants ranging from 100kWp to 3MWp.



PRODUCT FEATURES

eConf[2] : Intuitive interface and pre-configured communication drivers library. User-friendly 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.

Grid feed-in management

It is capable of managing sites with multiple points of injection and 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.

Multiple genset minimum loading

It automatically adjusts the PV production to achieve maximum PV penetration while ensuring that the gensets do not operate below their minimum loading requirement.

Genset peak shaving

Automatically start/stop your generator in “grid following mode” based on real-time load conditions. The genset’s active power is controlled to ensure net power from the grid remain below a user-defined threshold.

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.

Reactive power management

It adjusts the reactive power output of solar inverters to keep the power factor at the Point of Common Coupling (PCC) within grid operator limits, preventing penalties.

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 INFORMATIONS	HFS - S Version	HFS - M Version	HFS - L Version
Dimensions (mm)	400 x 400 x 250	500 x 400 x 250 (with screen 600x600x300)	600 x 600 x 300
Weight (without accessories)	1.2 kg	30 kg	30 kg
Maximum capacity (indicative solar kWp)	500 kWp	1,000 kWp	3,000 kWp
Max. number of devices PV inverters Gensets Meters	**32** 16 4 4	**64** 32 6 16	**128** 64 12 32
Points of injections	2 POI	4 POI for < 1MW	5 POI for < 3MW
Standards	IEC-60068-2-27, IEC 61000-4-2/3/4/6/8, UL 60950-1, IK10, UL508A		
Installation	DIN rail mounting		
Protection class (for optional wall mounting kit)	IP 66		

AMBIENT CONDITIONS		
Temperature	-10°C 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, without casing 100 - 240 VAC, 50 Hz / 60 Hz, with Elum casing	
Power consumption (max)	20W	50W
UPS	Optional - 19,2 / 28.8 / 76,8 / 172.8 / 288 Wh (Up to 24h autonomy)	

COMMUNICATION & SECURITY		
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	4 x serial (RS485/RS422/RS232) 3 x LAN (RJ45 - 1,000 Mbps) 1 x VGA 2x 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, weather station)	2 modules max	4 modules max
Power measurement	From compatible meter models only[1] - Optional (up to 16)	

DATA ACQUISITION		
Collected data	Active / reactive power, current, voltage, ...[4]	
Equipment alarms (with ePowerMonitor[3])	Mail & web notifications, configurable thresholds on all read variables	
Data acquisition granularity	10 minutes for data on ePowerMonitor[3], 5 minutes for data on some third party platforms, real-time for alarms[5]	
Data Storage	8Go (optional 32Go) → 100 days of data stored	32Go (up to 256Go) → 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