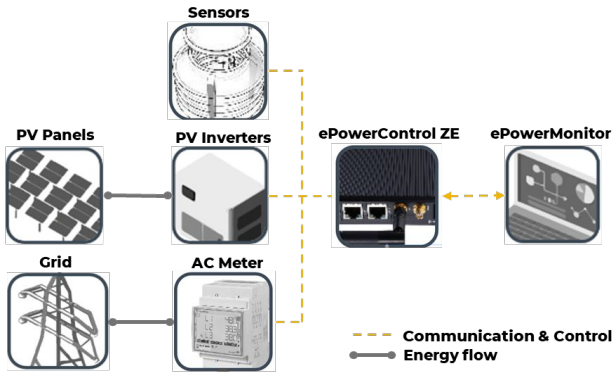
ePowerControl ZE Series

Grid feed-in solar controller

PRODUCT DESCRIPTION

ePowerControl ZE series are zero-export controllers specifically designed for grid-tied solar plants in self-consumption applications where feed-in management is required.



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

It 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 power export according to grid guidelines and enables operators to autonomously set grid targets. The controller offers three preconfigured feed-in management options: **zero export** (default), **maximum export**, and **minimum import**. This feature is available for both singular and multiple grid connections

Reactive power regulation

(ZE 1000/ ZE 3000 only)
Adjusting 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.

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]).

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 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	ZE 500	ZE 1000	ZE 3000
Dimensions (mm)	Base module - 101 x 27 x 128 (with casing - 300 x 300 x 150)		Base module - 132 x 122 x 87 (with casing - 500 x 400 x 250)
Weight (base module)	224 g		1,340g
Maximum capacity (indicative solar kWp)	500	1,000	3,000
Max. number of devices PV inverters Meters IO Modules Grid Connections (point of injection)	**16** 8 2 2 1	**64** 32 8 2 4	**120** 120 32 4 5
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	-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 - 100 Mbps); 2 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)	Optional - max. 4 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	8Go → 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