





#### contact@elum-energy.com

www.elum-energy.com

### **Product description**

The **ePowerBooster by Elum Energy** is a cloud-based controller designed for off-grid microgrids equipped with Victron control and monitoring systems. The ePowerBooster operates in coordination with **Victron Venus devices** (Color Control GX, Venus GX, Octo GX) to **reduce fuel costs by 5% to 15%**.

#### **Product benefits**

- Energy Efficient: between 5-15% fuel costs savings
- Secured: access through Victron's secured VRM platform
- Fast and easy: get access within 72h through a few clicks on your VRM
- Guaranteed: test it out with our 1-month free trial

## Who is it for?

The ePowerBooster is designed for **any off-grid Victron-based Energy system** with solar **PV, genset and batteries** (in both DC and AC configurations).



Minimum parts and Accessories

- VE.bus system (Multiplus or Quattro)
- Venus OS device
- Solar PV array (AC or DC coupling)
- Storage (lead or other off-grid compatible technology)
- Genset (with remote on/off contact)
- Internet connection (minimum of 50% uptime)









## How does it work?



#### How Victron controllers do it:

Energy management strategy for Genset start/stop is based on **two state-ofcharge (SoC) thresholds:** 

- When the batteries' SoC is below the lower threshold, gensets are turned on to provide load energy and charge batteries at the same time
- When the batteries' SoC reaches the upper threshold, gensets are turned off

#### In practice when commissioning a site

These SoC thresholds are set during site commissioning phase and won't be modified over the years during system operation resulting most of the time in waisted solar energy.

#### Why?

With a fixed SoC threshold, when batteries are full (charged through generators) the solar surplus cannot be used nor stored, resulting in wasted PV energy.

#### How ePowerBooster can perform fuel savings:

- 1. ePowerBooster find the **optimal upper SoC threshold** to minimize wasted solar energy while taking into account **site specificities** (unit sizing, PV resources, batteries ageing, ...)
- 2. ePowerBooster adapt the upper SoC threshold to take into account weather and load profile variations
- ePowerBooster finally use a digital twin (site behavior simulation model) of the microgrid modelling batteries', inverters' and gensets' dynamics to simulate alternative start/stop strategies and validate ePowerBooster performance in fuel savings.

#### Is it secured to use ePowerBooster?

- If your system is already connected to the VRM platform, using ePowerBooster means just adding a new user who can access your site, communication with the site will be done through Victron MQTT secured protocol
- **No direct control order is given remotely**, we only change operating parameters thresholds.

For additional information on price and conditions, please contact us at <u>contact@elum-energy.com</u> or on <u>www.elum-energy.com</u>



## Access our platform in just a few steps

1.On the **Victron Energy** VRM platform, once you're connected to your account, select *Your installation* > **Settings** > **Users** then click on the **Invite user** button

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2. Fill in "<u>victron@elum-energy.com</u>", and the name ("Elum" for example), click to **Grant full control** then select **Send** 

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3. Activate MQTT feature in RemoteConsole > Settings > Services

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4. Find your **Portal ID** and send it to us at : <u>victron@elum-energy.com</u>.

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You will receive a **confirmation email** that the service has been configured **within 72 hours**.





# Case Study Powergen Ziragula reduces its fuel costs by 8%

#### www.victronenergy.com



## Ziragula - Rural electrification microgrid - Tanzania

The ePowerBooster has been deployed since January 2019 in Tanzania, where it enables the electrification of rural communities.



Compared to fuel consumption resulting from native Victron systems, the ePowerBooster **reduced fuel costs by 8%** during the first month. On the day shown on the graph below, genset consumption was of 7.5kWh compared to 18kWh with Victron systems, saving around **4 liters of fuel on this day**.







