PRISMA 310A-Lite

DATASHEET

Self-consumption power regulator for small installations

Complying with all local regulations UNE 217001-IN and RD 244/2019
Possibility of controlling 1 inverter up to 50 kW.
For its function exclusively as a meter, it does not have any power limitation.

Figure 1 PRISMA 310AL - allows power regulation with ZERO injection for small installations

PRISMA 310A-Lite allows you to regulate the power obtained from renewable sources and provide physical and logical guarantees to decide what power we should or want to consume from the network.

Descripción

The PRISMA 310A is a dynamic power controller that allows regulating the generation level of the inverters of a production facility (photovoltaic, wind, ...) based on instantaneous consumption. The final objective is to limit or eliminate the export of energy, in the most efficient way, managing to maximize production while complying with regulatory and technical restrictions.

Characteristics

Equipo multifunción con capacidad de:

- Manage multiple models of inverters from different manufacturers:
  - Communication TCP (Sunspec/Modbus).
  - Communication RS485 RTU (Modbus+...)
- Adjusted according to local legislation
- Provides Modbus / TCP Server for monitoring
- Self-consumption facilities without surplus:
  - Avoid the injection of energy into the grid (double physical and logical control).
  - Complying with all local regulations UNE 217001-IN

Despite allowing it's use virtually to any meter model/ manufacturer that meet the communication necessities, its recommended to verify if the model is compatible with- this product before ordering, or at least, contacting Real Energy Systems to check compatibility with the device providing as well the Modbus/TCP map for the device.

Operation, application modes

The device allows great versatility to adapt it by configuration to different operating conditions:

Power reading

The equipment allows direct reading through a XXX/5 A current transformer connected to the equipment.

Production management

Its objective is the regulation of production to adapt to the instantaneous needs of consumption, as well as to the demand for surpluses (configurable)

Physical control of network connection

The device has a relay to act over a contactor that limits physically the inverter's main grid connection and in consequence, their energy supply to the installation.

Monitoring

The device can be monitored by:

- Signalization LEDs: They provide instantaneous information on the device's state, consumption, etc... (See connection scheme)
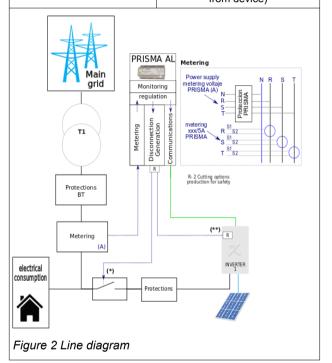- Communications: Through Modbus/TCP.

Surplus management

The system incorporates a configurable relay designed to use the energy available in generation for other uses, before regulating production.

Technical data

Technical properties

Conformity declaration	CE
Power supply	90-265 VAC, 50-60Hz
Work conditions	-20..+50ºC // 5-95% HR no condensation
Size	91x116x58
Weight	200gr.
Protection level	IP20
Box material	Plastic PC/ABS auto-extinguishable UL94-V0
Assembly	On DIN rail EN 60715
Fabricated in	Spain. European Union
Primary voltage connections	1x (85-265VAC) (50/60Hz)
Thermic class	Ta70C/B
Electronic denomination	E0041
Firmware denomination	PRISMA 310A-Lite
Disconnection relay/contactor	Dry contact (tension free) Tipo AC1. Máximo 5A / 250VAC.
Surplus Management Relay	Tipo AC15. Máximo 1,5A / 240V

Other functions:

- Ethernet RJ45
- 3 voltage readings + 3 intensity readings (5A)
- Integrated continuous power supply (220V)
- 2 x Communications bus TTL (5V) (Optoisolated + Optional Polarization)
- Signaling LEDs (2 green/2 orange/2 red)
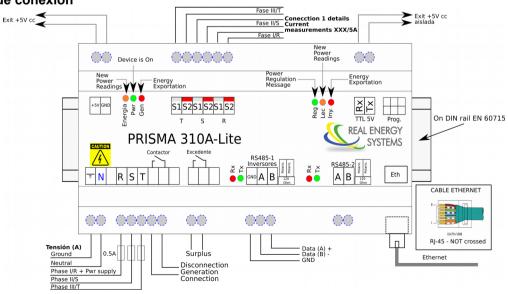- Internal buzzer for audible notification.

Communication

Inverter communication	RS-485 Ethernet
Protocols	ComLynx Modbus TCP Modbus RTU (Configurable, incluye Sunspec)
Direct metering	Transformer XXX/5A
Communication with external meters	No
External communication	Servidor Modbus TCP
Modbus data	Posted via LDV (Downloadable from device)

Figure 2 Line diagram

Esquema de conexión