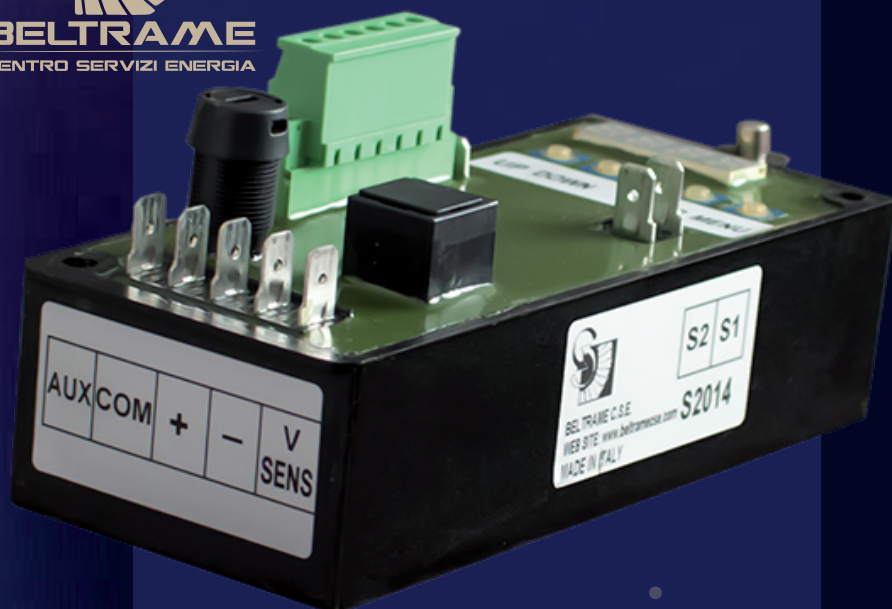


# AUTOMATIC VOLTAGE REGULATOR

# S 2014



**BELTRAME**  
CENTRO SERVIZI ENERGIA



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S2014 is the new **DIGITAL** controller manufactured by BELTRAME CSE. It controls alternators excitation and its easy programmable software makes it suitable for a wide alternators range. Several parameters can be optimize on this devise.

## FEATURES FUNCTIONS

- Four control modes:
  - Automatic Voltage Regulation (AVR);
  - Current regulation (FCR);
  - Power Factor Regulation (PF);
  - Reactive power regulation (VAR).
- In AVR modes the voltage regulation is made by "soft-start" ramp;
- Wide range of regulations and "set points" for each functioning mode;
- Protection for over excitation (OEL) and under excitation (UEL) when working in AVR, VAR and PF modes;
- Compensation for under-frequency or limitation of voltage/frequency ratio [V/Hz];
- Six generator protection functions:
  - Protection from excitation over-voltage;
  - Protection from excitation over-current (OE limit);
  - Protection from generator over-voltage;
  - Protection from under current excitation (UE LIM);
  - Lack of field voltage;
- Generators parallel connection with "droop" reactive compensation and differential reactive compensation.

## INPUTS AND OUTPUTS

- Single phase voltage (3÷300 Vac 40÷400Hz);
- Single phase rms generator voltage sensing (0÷600 Vac);
- Single phase generator current (nominal 1A or 5A);
- Analog input ( $\pm 5$  V) providing a proportional and remote control to the voltage regulating point;
- Three digital inputs (up/down/parallel);
- Power output up to a maximum of 8A in continuous duty and positive ceiling voltage of 16A for 10s.;
- Analog input for 1 k $\Omega$  potentiometer for remote control from the voltage regulation.

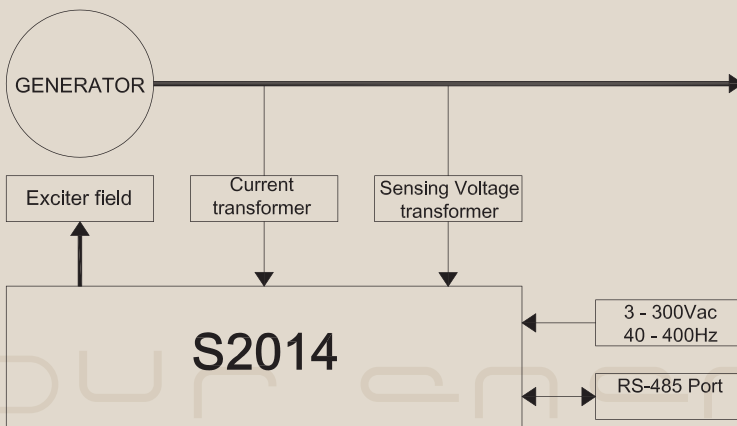
## HMI INTERFACE

- On the regulator there are buttons for navigation and modification of parameters and a display for view of the same, in addition to the most important values;
- RS-485 communication port.

## TECHNICAL FEATURES

Max. output current in continuous duty: **8A**  
 Maximum output current for 10 sec. : **16A**  
 Auxiliary input frequency range: **40Hz ÷ 400Hz**  
 Alternator nominal frequency: **50Hz or 60Hz**  
 Temperature range in duty: **0°C ÷ +55°C**  
 Temperature range in stock : **-20°C ÷ 80°C**  
 Overall dimensions in mm:  
*wide 58, length 138, height 60, weight 550*

**PIC. 1: Operating diagram for voltage regulator type S2014.**



## APPLICATIONS

In the typical application described here, the AVR S2014 controls the excitation field of a synchronous generator. The display control panel, and the serial communication ports using the PC software, ease the on-site/remote use of the system.