



The HPR controller is able to guarantee accurate measurements and processing of the main electrical parameters. The capacitor steps are self-configurable, minimizing initial configuration tasks.

### TECHNICAL DATA

#### Main features

- Automatic initialization
- Automatic bank detection and automatic disconnection of defective banks
- CT ratio programmable from 1 to 9600 (CT up to 48000/5 A or 9600/1 A)
- Current and voltage measurement with true effective value
- Measurement of THD% in current, up to the 19th odd harmonic
- Measure of the  $\cos\phi$  between voltage and current using the waveform of the fundamental
- Manual and Automatic operation mode
- Digital input: choice between target  $\cos\phi_1$  and  $\cos\phi_2$ , external alarm / low current signaling
- Temperature sensor: internal NTC
- Alarm memory: Storage of the last ten alarms
- In manual each battery can be forced (ON / OFF), ON is used for a fixed compensation
- RS485 serial output with Modbus-RTU protocol

#### Alarms

Voltage measurement out of tolerance, low / high current alarm  $<5mA$  e  $>6A$ , Target compensation not achieved, Capacitor bank power loss below 75%, Threshold limits THDu and THDi exceeded, Max. Hours of operation achieved, Insertions and maximum hours reached by each Bank

#### Displayed values

$\cos\phi$ , VL-L, VL-N, I, Power Factor, Ambient temperature, THD% in voltage and current, maximum values (temperature, voltage, THD), powers (active, reactive and apparent), number of battery insertions. It can also provide useful maintenance warnings, such as the loss of power on the benches, the number of insertions, the actual working time of the capacitor banks.

#### Display / LED

The unit is equipped with a backlit LCD display, to ensure easy data reading in all environmental conditions; Status of capacitor banks, MAN / AUT, line status IND / CAP

#### Functioning

Automatic 4 quadrants / Manual.

#### Amperometric input

0.015 .. 6 A, absorbed power  $< 1 VA$ , CT ratio 1 .. 9600.

#### P.F. regulation

From + 0,7 (inductive) to -0,7 (capacitive).

#### Relay contacts

5 A / 250 Vac; 1 A / 400 Vac.

#### Degree of protection

IP 41 (with cover IP 54) front; IP 20 back.

#### Operating temperature

-20 / + 70 °C

#### Storage temperature

-40 / + 85 °C



### PERFORMANCE DATA

- Rated voltage 90– 550 Vac
- Rated frequency 50 / 60 Hz self-determined
- Power absorbed 5 VA
- Capacitor Bank insertion time Adjustable
- Control algorithm Automatic (Best fit), LIFO, Progressive, Combined filter

### QUALITY AND TESTING

**Regulations** EC 61010-1; IEC 61006-2; IEC 61006-4: level B IEC 61326-1; UL 61010.

**European directives** Low voltage: 2014/35/CE; Electromagnetic compatibility: 2014/30/CE.

### CONFIGURATIONS

#### Table

Code	Type	N° controllable Banks	Dimensions b x h x p
75993061	HPR 6 – MB (ModBus)	6	144 x 144 x 58
75993121	HPR 12 – MB (ModBus)	12	144 x 144 x 58