



CPA

Active power converter

GENERAL POINTS

The active power converter CPA measures the positive or negative power of a three-phase source with or without neutral. Designed to operate with versions GPRII & GPRIII load commander for generating set applications, it is suitable for any application requiring a measurement and a conversion of power into a $\pm 20\text{mA}$ signal.

OPERATING MODES

The CPA is suitable for any three-phase active power measurement and among others, when the measurement is far from the treatment unit. With the GPR, the distance can be until one kilometer using CRE recommended shielded cable.

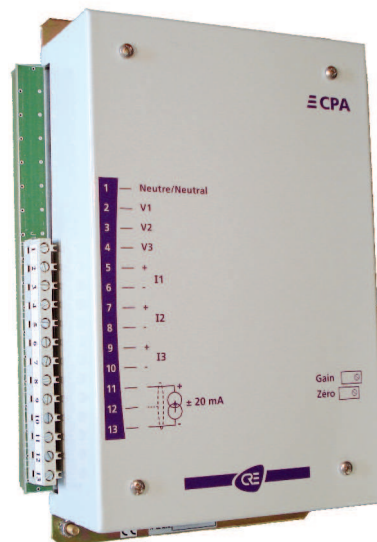
Two adjustments are possible by the potentiometers zero and gain. The zero potentiometer allows to adjust with precision the zero power measurement to compensate the possible defects of the installation. The gain potentiometer adapts the range of the current output $\pm 20\text{mA}$ according with the maximum power of the installation.

These 2 adjustments allow to operate in $-12/+20\text{mA}$ with $+4\text{mA}$ for the power zero.

Thanks to its fast conversion, the CPA is particularly adapted for power regulation and among others, for the control of generating sets paralleled with the commercial power.

VOLTAGES

The CPA is available in 100, 230 et 400 volts AC between phases. Use voltage transformers if the voltage is higher



A24Z0 /1 /2 /3 /4 /5

CURRENTS

The CPA operates with current transformers of 5 Amps nominal at the secondary. The gain potentiometer allows to adjust the output signal at 20mA according with the nominal value at the secondary of the current transformers.

The maximum current possible for the CPA is 6 Amperes. This allows to measure $1,2 I_n$ (overload of 20%).

ACTIVE POWER CONVERSION

The CPA has a true active power measurement on each phase, the result being the sum of the three:

$$P = U_1 \times I_1 \times \cos \Phi_1 + U_2 \times I_2 \times \cos \Phi_2 + U_3 \times I_3 \times \cos \Phi_3$$

The conversion time is lower than 200 milliseconds.

CURRENT OUTPUT

The $\pm 20\text{mA}$ current output of the power measurement is totally isolated from the power circuit.

CHARACTERISTICS

■ **CE Mark:** the CPA is in conformity with European CE Mark requirements.

■ **Weight-Size:** 1,8 Kg - 230 x 144 x 58,2 (fixing: 4 holes $\varnothing 4\text{mm}$, at 95 x 214mm).

■ **AC voltage between phases $\pm 15\%$:**

Reference	AC Voltage
A24Z0	100 VAC - 5A
A24Z1	230 VAC - 5A
A24Z2	400 VAC - 5A
A24Z3	100 VAC - 1A
A24Z4	230 VAC - 1A
A24Z5	400 VAC - 1A

Consumption 4 VA by phase

■ **AC current:** 0 to 5 A, with a maximum of 6A. 0,05 Ohm for the input impedance. Consumption 1,25 VA perby phase.

■ **Active power measurement accuracy:** $\pm 1\%$.

■ **Current output:** Range maxi of $\pm 25\text{mA}$, with a possible adjustment in $-12/+20\text{mA}$. Impedance maxi 250 Ohms

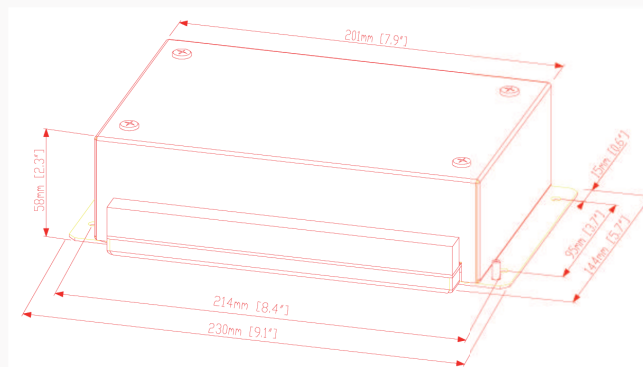
ENVIRONMENT

■ **Operating temperature:** -20 to $+85^\circ\text{C}$.

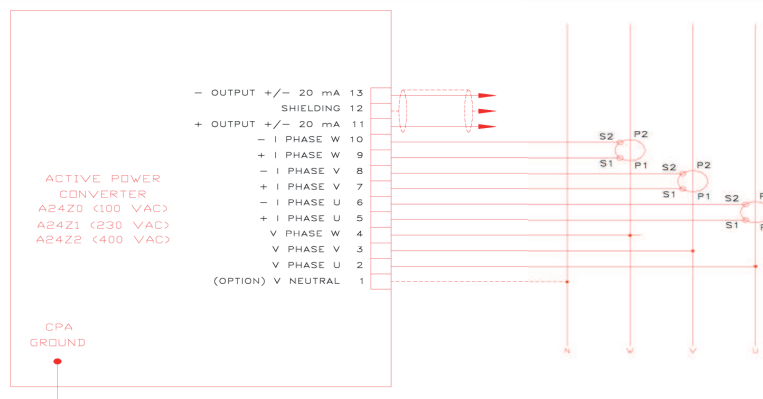
■ **Mounting:** can be mounted in all positions.

■ **Humidity:** will operate normally in humid conditions (tropic-proof circuits).

Dimensions



Wiring diagram



embedded electronics

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