

V170

Reactive Energy Controller V 170 series



The new AENER's controllers V170 series is fully equipped with an innovated automatic adjustment system which detect and automatically adjust the main parameters, such as the current transformer (CT) value, the value of the first step, and the semi-automatic determination and correction of the current transformer phase.

The power factor (PF) adjustment is being achieved by measuring continuously the relative energy absorbed by the load and through the connection / disconnection of the steps to maintain the required PF.

Main characteristics

- Controlled by an advanced microprocessor.
- Auto programmable.
- Recognize automatically the primary value of the current transformer.
- Automatic detection and correction of the current transformer set up (Phase and orientation).
- Automatic setting of the C/K value.
- Digital display.

Technical specifications

- Voltage input: **380-440 (MÍN-MÁX).**
- Frequency: **50/ 60 Hz self-determined.**
- Power supply consumption: **3 VA.**
- Voltage input burden: **< 0,1 VA.**
- Current input: **5A.**
- Current input maximum: **(sinusoidal) 5,5 A.**
- Current input minimum: **100 mA.**
- Current input burden (at 5A): **< 0,4 VA.**
- Automatic detection of the CT value.
- C/K setting: **Automatic.**
- CT orientation: **Semi-automatic detection and correction.**
- CT phase: **Semi-automatic detection and correction.**
- Objective PF: **1 (factory adjustment).**

- Display: **2 digits red led.**
- Readings: **FP.**
- Output (Steps): **3 (programming in 3 or 4).**
- Output contact specifications: **(Isolation: >4 kV). 1,250 VA -250 Vca.**
- Commutation interval: **10, 20, 30, 40 sec. (programming).**
- Reconnection delay time: **30, 60, 90, 120 seg. (programming).**
- Commutation sequence: **Universal (Auto-adaptable). (1.1.1.1.. - 1.1.2.2.. - 1.2.2.2.. - 1.2.3.3.. - 1.2.3.4.. - 1.2.4.8.. - etc.)**
- Signal low liberation: **< 100 mA.**
- Voltage low liberation: **> 20 ms.**
- Temperature range: **- 10 ÷ +55 °C.**
- Relative humidity: **HR < 90% (without condensation).**
- Isolation Test: **2.000 for 1 min.**
- Protection level: **Front panel: IP54 - Back panel: IP20**
- Enclosure: **plastic self-extinguishing (UL94-V0).**
- Installation: **flush mount with 2 self-blocking sliding clips.**
- Connection: **plug-in terminal boards - 2.5 mm² screw terminals.**
- Dimensions: **(DIN 43700): 96 x 48 x 70 mm.**
- Panel cut: **43 x 92 mm.**
- Weight (approx.): **80 g.**
- CE compliance
 Ref. standards: **EN50081-2, EN55011, EN55014, EN50082-2, ENV50140, ENV50204, EN61000-4-8, 61000-4-2, EN61000.**

V450 – V650

Reactive Energy Controllers V450 – V650 series



V170 - V450 - V650
Reactive Energy Controllers V170 - V450 - V650

The AENER's controllers V450 – V650 series present the latest development in this field. Our reactive energy controllers are the result of our hard working, experience and knowledge in the PF correction implemented by using a powerful microprocessor of last technology which ensure a data processing at high speed and consequently the execution of algorithmic and sophisticated mathematical functions with the highest reliability.

The power factor (PF) adjustment is being achieved by measuring continuously the relative energy absorbed by the load and through the connection / disconnection of the steps to maintain the required PF. Alarms and sophisticated controls functions ensure the capacitors protection against serious or no-normal working conditions such as harmonics currents, resonance, over voltage in the supply network and high temperature.

The appropriate compensation is monitored and a signal is set up when it is not the required.

Main characteristics

- Operated by a powerful microprocessor.
- Automatic correction of the Current Transformer (CT).
- Multiple readings (RMS measurement).
- Intelligent alarm functions.
- Separate measurement and power supply inputs.
- Two manual control modes.
- Safety dual-level digital programming (Basic and Advanced).
- Optional accessories according to each customer needs.

Technical specifications

- Voltage input: 100 ÷ 690 Vrms.
- Frequency: 50/ 60 Hz self-determined.
- Voltage input burden: < 0,1 VA.
- Power supply (selectable): 230 ÷ 240V, 115 ÷ 120V ±10%.
- Power supply consumption: 3VA (type 450) 4VA (type 650).
- Current input: 5A.
- Current input burden: (at 5 A): < 0,4 VA.
- Current input maximum: (sinusoidal) 5,5 A.
- Current input minimum: 100mA.
- CT range: 5/5 A ÷ 12.000/5A.
- CT orientation: automatic compensation.
- C/K adjustment: automatic.
- Power Factor adjustment: 0,50 Ind./0,50 Cap.
- Readings: PF, V, kvar, THC%, °C.
- Output (steps): 4 or 6 (type 450), 6 or 12 (type 650).
- Output programming: 1-4, 1-6 (type 450) 1-6, 1-12 (type 650).

- Output contacts specifications: (Isolation >4 kV) 1.250 VA - 250 Vca).
- Switch-on interval: 2÷250 sec.
- Switch-off interval: 2÷250 sec.
- Reconnection delay time: 2÷250 sec.
- Switching sequence: (Universal) self adapting: (1.1.1.1...-1.1.2.2...-1.2.2.2...-1.2.3.3...-1.2.3.4...-1.2.4.8...etc.).
- Alarms:
 - Over voltage: 0÷690 Vca.
 - Over voltage alarm delay: 1÷240 min.
 - Low PF-alarm: 0÷1 FP.
 - Low PF-alarm delay: 1÷240 min.
 - Over current (Harmonics) alarm: 0÷200%.
 - Over-temperature alarm for fan control: 0÷60 °C.
 - Over-temperature alarm for equipment switch-off: 0÷60 °C.
- Voltage low liberation: > 20 ms.
- Temperature range: -10 +55 °C.
- Signal low liberation: < 100 mA.
- Relative humidity: HR < 90% without condensation.
- Isolation Test: 2.000 for 1 min.
- Protection level: Front panel: IP54 – Back panel: IP20.
- Enclosure: auto extinguishable plastic (UL94-V0).
- Installation: flush mount with 4 self-blocking sliding clips.
- Connection: 2,5 mm² screw terminals.
- Dimensions: (DIN 43700): 96x96x50 mm (type 450) 144x144x50 mm (type 650).
- Panel cut : 92x92 mm (type 450) ,137x137 mm (type 650).
- Weight (approx.): 0,450 kg (type 450) 0,680 kg (type 650).
- CE compliance: Ref. standards: EN50081-2, EN55011, EN55014, EN50082-2, ENV50140, ENV50204, EN61000-4-8, 61000-4-2, EN61000-4-4.