

**ON/OFF Controller's size 48x48 mm**



Controller designed to display and control heating or cooling generators, with input for Pt100, Thermocouple J or Thermocouple K type sensors. Relay outputs may be used for control and/or alarm. It also has a logic output/input for control/alarm.

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**1- VERSIONS AND REFERENCES**

MODEL	SUPPLY
AKO-15440	20 to 48 V ≈
AKO-15490	100 to 240 V ~ 50/60 Hz

**2- TECHNICAL DATA**

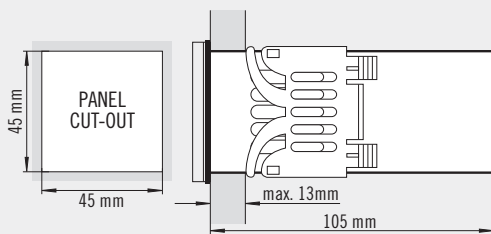
Range according to type of sensor configured:  
 Pt100 ..... -99,9 °C to 850,0 °C (-148 °F to 1562 °F)  
 J Thermocouple ..... -99,9 °C to 800,0 °C (-148 °F to 1472 °F)  
 K Thermocouple ..... -99,9 °C to 1370,0 °C (-148 °F to 2498 °F)  
 Set Point range ..... -99,9 to 2500 (°C / °F)  
 Resolution, Set Point and differential ..... 0,1 or 1 (°C / °F) configurable by parameter rES  
 Accuracy ..... ± 0,25% (Pt100, TcJ, TcK)  
 R1 relay: CONTROL or ALARM 2 (configurable by param. Clo): SPST-NO, 6A, 250V, cosφ=1  
 R2 relay: ALARM 1 ..... SPDT, 5A, 250V, cosφ=1  
 Maximum input power ..... 3 VA  
 Working ambient temperature ..... 0 °C to 55 °C  
 Storage ambient temperature ..... -30 °C to 70 °C  
 Installation category ..... II under EN 61010-1 Standard  
 Pollution degree ..... II under EN 61010-1 Standard  
 Double insulation between the power supply, the secondary circuit and the relay output.

**3- INSTALLATION**

The controller should be installed in a place protected from vibrations, water and corrosive gases, and where ambient temperature does not surpass the value specified in the technical data.  
 In order for the controllers to have IP55 protection, the gasket should be properly installed between the apparatus and the perimeter of the panel cut-out where it is to be fitted.  
 In order to give a correct reading, the probe should be installed in a place without heat influences other than the temperature that is to be measured or controlled.

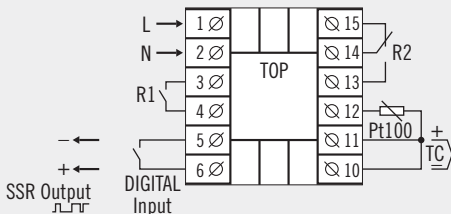
**3.1 Fastening:**

To fix the unit, place the fasteners in the top and the lower parts and press them to enter in the controller lateral sliders. Move the fasteners in direction to the panel until the controller is fixed.

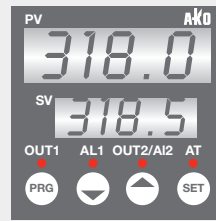


**3.2 Connection:**

The probe and its lead should NEVER be installed in ducting along with power, control or power supply wiring.  
 The power supply circuit should be connected with a minimum 2 A, 230 V, switch located close to the unit. Power supply cables should be H05VV-F 2x0.5 mm² or H05V-K 2x0.5 mm². Section of connecting wires for relays contacts should range from 1 mm² to 2.5 mm².



**4- FRONT PANEL FUNCTIONS**



**PRG Key**

Accepts the alarms and disconnects alarm outputs. When pressed for at least 3 seconds, the SP SET POINT temperature value is displayed. When pressed for 10 seconds display the first level of menu SPCF of parameters. Exit programming level.

**DOWN Key**

Accepts the alarms and disconnects alarm outputs. In programming, it makes the displayed value reduce.

**UP Key**

Accepts the alarms and disconnects alarm outputs. In programming, it makes the displayed value increase.

**SET Key**

Accepts the alarms and disconnects alarm outputs. In programming, accept the programmed new value.

**LED OUT1:**  
CONTROL indicator activated.

**LED AL1:** indicator enabled.  
Flashing: Alarm 1 detected, relay deactivated but signalling maintained.

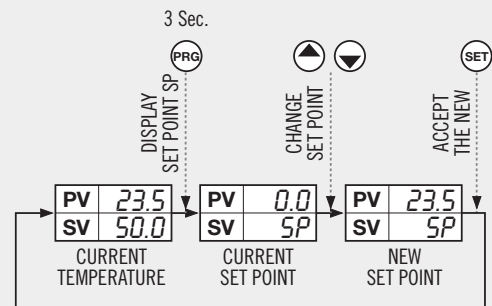
**LED OUT2/AL2:**  
Alarm 2 indicator enabled.  
Flashing with Alarm 2: Alarm2 detected, relay deactivated but signalling maintained.

**5- ADJUSTMENT AND CONFIGURATION**

It should only be programmed or modified by personnel who are fully conversant with the equipment operation and possibilities.

**5.1 Set Point temperature:**

The factory SET POINT default value is 0,0 °C.  
 - Press **PRG** key for at least 3 seconds to DISPLAY SET POINT SP. It displays the CURRENT SET POINT value.  
 - Press **UP** or **DOWN** keys to CHANGE SET POINT into the required value.  
 - Press **SET** key to ACCEPT THE NEW SET POINT. The display returns to the CURRENT TEMPERATURE display status.



**5.2 Parameters configuration:**

**Level 1 Menus**

- Press **PRG** key for at least 10 seconds. We are in the programming LEVEL 1 MENU and the first menu "SPCF" is displayed.
- Press **UP** key to access the next menu and **DOWN** key to return to the previous one.
- Press **PRG** key, the controller returns to the CURRENT TEMPERATURE display status.

When **PAS** is displayed, PASSWORD programmed in **PAS1** parameter of **PAR** menu should be entered to access programming LEVEL 1 MENU.

- Press **UP** or **DOWN** keys to CHANGE NUMBER and DISPLAY PASSWORD programmed.
- Press **SET** key to ACCEPT PASSWORD. The first menu "SPCF" will be displayed.

**Level 2 Parameters**

- In the desired menu of LEVEL 1 MENU, press key **SET**. LEVEL 2 PARAMETERS programming is accessed. The first parameter of the selected menu is displayed on the screen.
- Press **UP** key to access the next parameter and **DOWN** key to return to the previous one.
- Press **PRG** key, returns to the LEVEL 1 MENU.

**Level 3 Values**

- Press **SET** key to enter and modify the desired parameter.
- Press **UP** or **DOWN** keys to CHANGE VALUE.
- Press **SET** key, ACCEPT THE NEW VALUE and it returns to LEVEL 2 PARAMETERS.
- Press **PRG** key, it returns at LEVEL 2 PARAMETERS without modify value.

