

AKO D-14323

AKO D-14323 230V Universal Digital Temperature Controller User Manual

1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of the AKO D-14323 230V Universal Digital Temperature Controller. Designed for industrial and commercial refrigeration applications, this controller offers precise temperature management and adjustable defrost cycles. Please read this manual thoroughly before installation and use to ensure safe and efficient operation.

2. SAFETY INFORMATION

Always observe the following safety precautions to prevent personal injury or damage to the device:

- Installation and maintenance should only be performed by qualified personnel.
- Disconnect power to the unit before performing any wiring or maintenance.
- Ensure the power supply voltage matches the controller's specifications (230V).
- Protect the device from water, moisture, and extreme temperatures.
- Do not open the controller housing unless specifically instructed.

3. PRODUCT OVERVIEW

The AKO D-14323 is a versatile digital temperature controller equipped with a clear digital display and intuitive controls. It is suitable for a wide range of refrigeration and freezer units.

Key Features:

- Digital thermostat for industrial and commercial freezers.
- Temperature range from -50.0 °C to +99.9 °C (-58°F to +210.2°F).
- Three relays for compressor, fan, and auxiliary functions.
- Two temperature sensors included.
- Panel mounting design.
- Programmable defrost cycles.

- Fahrenheit and Celsius readings.
- Programmable digital inputs for door switch, alarm, remote defrost, energy saving, or continuous cycle.

Controller Front Panel:



Image 3.1: Front view of the AKO D-14323 controller, showing the digital display and control buttons. The display shows temperature readings, and buttons include ESC, SET, Power, and up/down arrows (often used for defrost and parameter adjustment).

The front panel features a digital display for temperature readings and status indicators. Control buttons allow for setting parameters, initiating defrost cycles, and navigating menus.

4. INSTALLATION AND SETUP

Proper installation is crucial for the controller's performance and longevity.

4.1 Panel Mounting

The AKO D-14323 is designed for panel mounting. Ensure adequate space for ventilation and access to wiring terminals.

4.2 Electrical Connections

Refer to the wiring diagram on the back of the unit for correct electrical connections. All wiring must comply with local electrical codes.



Image 4.1: Back view of the AKO D-14323 controller, displaying the wiring diagram and product specifications. This diagram illustrates connections for power (230V), sensors (S1, S2), compressor (COOL), fan, and auxiliary outputs, along with digital inputs (D1, D2).

Wiring Key Points:

- **Power Supply:** Connect 230V AC to the designated terminals.
- **Sensors:** Connect the two temperature sensors (S1, S2) to their respective terminals.
- **Relay Outputs:** Connect the compressor, fan, and auxiliary loads to their corresponding relay terminals. The diagram specifies maximum current ratings for each output (e.g., COOL: 12(9)A 250V~, FAN: 5(4)A 250V~, AUX: 8(4)A 250V~).
- **Digital Inputs:** Utilize terminals for programmable digital inputs such as door switches or external alarms.

4.3 Initial Power-Up

After wiring, apply power to the controller. The display should illuminate, showing the current temperature or an initial setup prompt.

5. OPERATING INSTRUCTIONS

The AKO D-14323 offers various programmable parameters to suit different refrigeration needs.

5.1 Basic Operation

- **Temperature Display:** The main display shows the current temperature measured by the primary sensor.
- **SET Button:** Press to view or modify the setpoint temperature. Hold to enter parameter programming mode.
- **ESC Button:** Used to exit menus or cancel changes.
- **Up/Down Arrows:** Used to adjust values in programming mode or manually initiate defrost (if configured).
- **Power Button:** Turns the unit on/off or acts as a reset in some configurations.

5.2 Setting the Temperature Setpoint

1. Press the **SET** button briefly. The current setpoint will flash.
2. Use the **Up** or **Down** arrow buttons to adjust the desired temperature.
3. Press **SET** again to confirm and save the new setpoint, or **ESC** to exit without saving.

5.3 Advanced Parameter Programming

To access advanced parameters (e.g., defrost cycles, differential, auxiliary relay functions), hold the **SET** button for several seconds until the first parameter code appears. Navigate using the arrow buttons and press **SET** to enter/confirm values. Refer to the detailed programming guide (usually provided separately or available from AKO) for a complete list of parameters and their functions.

5.4 Defrost Cycle Management

The controller supports various defrost methods, including controlling the compressor, resistance heaters, or fans. Defrost parameters can be adjusted to optimize performance based on the application. An optional probe allows defrosting by temperature.

6. MAINTENANCE

Regular maintenance ensures optimal performance and extends the lifespan of your temperature controller.

- **Cleaning:** Periodically clean the front panel with a soft, damp cloth. Do not use abrasive cleaners or solvents.
- **Inspections:** Regularly check wiring connections for tightness and signs of wear or corrosion.
- **Sensor Check:** Ensure temperature sensors are securely in place and free from damage.

For any internal maintenance or repairs, contact a qualified technician.

7. TROUBLESHOOTING

If you encounter issues with your AKO D-14323 controller, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Display is blank	No power supply; incorrect wiring	Check power connections and ensure 230V supply. Verify wiring according to the diagram.
Incorrect temperature reading	Faulty sensor; sensor not properly connected or placed	Check sensor connections. Replace sensor if damaged. Ensure sensor is correctly positioned in the controlled environment.

Problem	Possible Cause	Solution
Compressor/Fan not operating	Setpoint issue; relay fault; wiring error; parameter misconfiguration	Verify setpoint and differential settings. Check wiring to the compressor/fan. Review advanced parameters for correct configuration.
Defrost not initiating	Defrost parameters incorrect; manual defrost not triggered	Check defrost cycle settings (interval, duration, temperature). Attempt manual defrost if configured.

If the problem persists after attempting these solutions, contact AKO technical support or a qualified service technician.

8. SPECIFICATIONS

Detailed technical specifications for the AKO D-14323 controller:

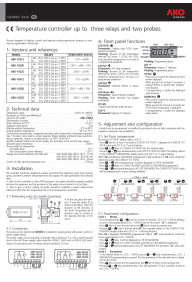
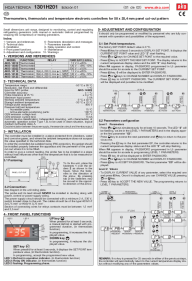


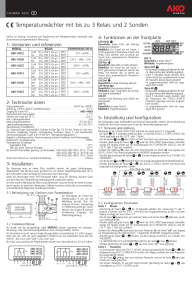

- **Model:** AKO D-14323
- **Voltage:** 230 Volts
- **Temperature Range:** -50.0 °C to +99.9 °C (-58°F to +210.2°F)
- **Relays:** 3 (Compressor, Fan, Auxiliary)
- **Sensors:** 2 temperature sensors included
- **Mounting:** Panel mounting
- **Material:** Plastic
- **Item Weight:** 0.01 ounces (approximate)
- **Display Style:** Digital
- **Special Features:** Programmable
- **Usage:** Commercial/Residential
- **Certifications:** ETL, CE, IP65, GAMA
- **Manufacturer:** AKOCONTROL

9. WARRANTY AND SUPPORT

For warranty information and technical support, please contact AKO directly or refer to their official website. Keep your purchase receipt for warranty claims.

Manufacturer: AKOCONTROL

Website: www.ako.com

	<p><u>AKO Temperature Controller Up To Three Relays and Two Probes Manual</u></p> <p>This document provides detailed information on AKO temperature controllers, including versions, technical data, installation, front panel functions, adjustment, parameters, and maintenance. It covers models like AKO-14212, AKO-14220, AKO-14223, AKO-14312, AKO-14320, and AKO-14323.</p>
	<p><u>AKO 1301H201: Termómetros, Termostatos y Controladores Electrónicos de Temperatura</u></p> <p>Hoja técnica detallada para los controladores de temperatura AKO serie 1301H201, incluyendo especificaciones, instalación, configuración de parámetros y mantenimiento. Ideal para aplicaciones de refrigeración y calefacción.</p>
	<p><u>AKO-15724/AKO-15725 Temperature Controller and Data Logger User Manual</u></p> <p>Comprehensive user manual for AKO-15724 and AKO-15725 temperature controllers and data loggers, detailing installation, operation, technical specifications, and programming.</p>
	<p><u>AKO D14xxx / D101xx Series Temperature Controllers - Technical Manual & Specifications</u></p> <p>Detailed technical manual and specifications for AKO D14xxx, D101xx, D141xx, and D140xx series temperature controllers. Includes warnings, operation, wiring diagrams, start-up wizard, accessories, and technical data.</p>
	<p><u>AKO CE Temperaturwächter mit bis zu 3 Relais und 2 Sonden - Technische Spezifikation</u></p> <p>Technische Dokumentation für AKO CE Temperaturwächter, die Geräte zur Anzeige, Steuerung und Regulierung von Kältegeneratoren beschreibt. Enthält Informationen zu Versionen, technischen Daten, Installation, Frontplattenfunktionen, Einstellung, Konfiguration, Parametern, Wartung und Warnhinweisen.</p>
	<p><u>AKO-555244 Alarm Control Unit - Instructions and Technical Manual</u></p> <p>Comprehensive instructions and technical specifications for the AKO-555244 alarm control unit, designed for machine rooms and chamber safety. Covers installation, connections, configuration, operation, parameters, and technical details.</p>