AKOCORE
Maximum efficiency
in regulation Cold Room Stores

AKO
www ako.com
AKOCORE is the new family of AKO controllers for cold rooms, with new advanced functions and a totally innovative design which, alongside the new CAMM Module (available as an option), provides the installer with complete cold room monitoring and a new type of connectivity, without the need of networks or webservers, via the CAMM Tool mobile app.

FOR POSITIVE OR NEGATIVE COLD ROOMS
AKOCORE is the new family of AKO controllers for cold rooms, with new advanced functions and a totally innovative design which, alongside the new CAMM Module (available as an option), provides the installer with complete cold room monitoring and a new type of connectivity, without the need of networks or webservers, via the CAMM Tool mobile app.

FOR POSITIVE OR NEGATIVE COLD ROOMS
AKOCORE regulates the functioning of a cold room cooling circuit and can act upon all refrigeration circuit elements.

1. Autonomous installations as comprehensive installation controller.
2. Distributed installations as Service Panel:
Distributed installations as service panel, acting upon elements in the cooling circuit’s corresponding cold room store.

MAXIMUM EASE OF INSTALLATION
- Can be fixed to the wall using only 3 screws and has hinged front opening, which allows for one-handed fastening.
- Terminals identified on PCB and all wiring to the bottom of the device, with vast internal space.
- Upper and lower IP65 cable entry (using gland), and rear cable entry for installations where wiring should be hidden (No IP65, in this case).

EFFICIENT START-UP AND REGULATION
- The quickest installation system on the market, with a 2-step start-up wizard.
- Saving and loading parameters pre-determined using the CAMM Module is possible via the CAMM Tool app.
- Audible and visual alarms incorporated into the product.
- Controlling door frame resistance and controlling the defrosting of a second evaporator* or three-phase compressors/defrosting** is possible.

ATTRACTION AND VERSATILE DESIGN
- IP65 across the range.
- Built in a horizontal format, allowing for installation both next to and above the cold room door.
- Large, clear, intuitive display with colour-coded icons.
- Quick-access keys with the most common functions in a single click to facilitate use.

INCREASED CONNECTIVITY
- Serial Modbus.
- With the CAMM Module, it is possible to connect via Bluetooth using a mobile phone, control all relevant information relating to the installation and log important events. Moreover, via its “Share” mode, the CAMM module provides remote connectivity without the need for a network or a webserver.
- Digital inputs to silence the alarm, setpoint remote switching, remote defrost activation or defrost deactivation using charge-control systems.

* available for models ending in the letters P and D.
** available for models ending in the letter D.
<table>
<thead>
<tr>
<th>Versions and References</th>
<th>Versions</th>
<th>Models</th>
<th>Power supply</th>
<th>Solenoid</th>
<th>Defrost (20A)</th>
<th>Fan (16A)</th>
<th>Auxiliary 1</th>
<th>Crankcase Resistors</th>
<th>Auxiliary 2</th>
<th>Other Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 RELAY TEMPERATURE</td>
<td>AKO-16523</td>
<td>230V</td>
<td>1A</td>
<td>3000 W</td>
<td>12A (9A)</td>
<td>15A (15A)</td>
<td>150W</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONTROLLER</td>
<td>AKO-16520</td>
<td>120V</td>
<td>1A</td>
<td>3000 W</td>
<td>12A (9A)</td>
<td>15A (15A)</td>
<td>150W</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 RELAY TEMPERATURE</td>
<td>AKO-16523P</td>
<td>230V</td>
<td>1A</td>
<td>3000 W</td>
<td>12A (9A)</td>
<td>15A (15A)</td>
<td>150W</td>
<td>12A (9A)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONTROLLER WITH</td>
<td>AKO-16520P</td>
<td>120V</td>
<td>1A</td>
<td>3000 W</td>
<td>12A (9A)</td>
<td>15A (15A)</td>
<td>150W</td>
<td>12A (9A)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ELECTRICAL PROTECTION</td>
<td>AKO-16523D</td>
<td>230V</td>
<td>1A</td>
<td>10,000W</td>
<td>12A (9A)</td>
<td>15A (15A)</td>
<td>150W</td>
<td>12A (9A)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TECHNICAL SPECIFICATIONS**

- **Power supply**: AKO-16523 / AKO-16523P / AKO-16520 / AKO-16520P
  - 230 V ~ ± 10%, 50 ± 5%
  - 120 V ~ + 8% - 12%, 50 ± 5%
- **Maximum input power in the operation**: 15 W
- **Maximum nominal current**: 15 A
- **A Relay SSV / DEFROST - SPDT - 20 A NO** (EN60730-1: 15 (15) A 250 V–) (NC) (EN60730-1: 15 (13) A 250 V–)
- **Relay FAN - SPST - 16 A** (EN60730-1: 12 (9) A 250 V–)
- **Relay COOL - SPST - 16 A** (EN60730-1: 12 (9) A 250 V–)
- **Relay AUX 1 / H.CRANK. - SPDT - 20 A NO** (EN60730-1: 15 (15) A 250 V–) (NC) (EN60730-1: 15 (13) A 250 V–)
- **Relay AUX 2 - SPDT - 16 A NO** (EN60730-1: 12 (9) A 250 V–) (NC) (EN60730-1: 10 (8) A 250 V–)
- **Contactor (AKO-16523D) AC** (EN60730-1: 10 A 200 V– (III)) (AC3) (EN60730-1: 9 A 400 V– (III))
- **Number of relay operations**: EN60730-1: 100,000 operations
- **Probe temperature range**: -50.0 oC a 99.9 °C
- **Resolution, setting and differential**: 0.1 °C
- **Thermometric precision**: ±0.1 °C
- **Tolerance of the NTC probe at**: ±0.4 °C
- **Input for NTC probe**: AKO-14901
- **Maximum input power in the operation**: 10 VA
- **Working ambient temperature**: from -5 oC to 40 °C
- **Storage ambient temperature**: from -30 oC to 60 °C
- **Degree of protection**: IP 65
- **Installation category**: II s/ EN 61439-1
- **Degree of pollution**: II s/ EN 61439-1
- **Double isolation between power supply, secondary circuit and relay output.**
- **Dimensions**: 290 mm (An) x 141 mm (Al) x 84.4 mm (P)
- **Internal buzzer**
### HARDWARE CHARACTERISTICS

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ANALOGUE INPUTS</strong></td>
<td><strong>COOL - 16A</strong> Solenoid</td>
</tr>
<tr>
<td>AI1</td>
<td></td>
</tr>
<tr>
<td>AI2</td>
<td></td>
</tr>
<tr>
<td>AI3/DI2</td>
<td></td>
</tr>
<tr>
<td><strong>2 DIGITAL INPUTS</strong></td>
<td><strong>AUX1 - 20A</strong> Crankcase Resistor or Compressor</td>
</tr>
<tr>
<td>DI1 and DI2/A3</td>
<td></td>
</tr>
<tr>
<td>Door contact</td>
<td>Light</td>
</tr>
<tr>
<td>External alarm</td>
<td>Alarm</td>
</tr>
<tr>
<td>Severe external alarm</td>
<td>Light</td>
</tr>
<tr>
<td>SP switching</td>
<td>2nd evaporator</td>
</tr>
<tr>
<td>Remote defrost</td>
<td>Door frame resistance</td>
</tr>
<tr>
<td>Defrost lockout</td>
<td></td>
</tr>
<tr>
<td>Pressure switch low</td>
<td></td>
</tr>
</tbody>
</table>

* Available for models ending in the letters P and D.
** According to EN-12830 Regulation.

### WIRING

#### AKO-16523P / 16520P

![Wiring Diagram](attachment:ak16523p_16520p.png)

#### AKO-16523D

![Wiring Diagram](attachment:ak16523d.png)

#### AKO-16523 / 16520

![Wiring Diagram](attachment:ak16523_16520.png)
CAMM Module
A new horizon for usability and connectivity

Module for connectivity and storage of key installation information, allowing for access to the AKOCORE controller from a mobile device.

- Cold room activity log.
- Continuous temperature log.
- Events and modification audits in its configuration.
- Summary of key data.
- Mobile configuration and parametrisation.
- User interface extension.
- Sharing of devices for remote management.

**BENEFITS**

**1 INSTALLATION**
- Reduces installation time and makes device configuration simpler.
- Device can be configured from a mobile phone and standard parameters and configurations can also be created, saved and shared with other installers.

**2 START-UP**
- Provides information on the installation’s performance and use after start-up.
- Identifies errors in device performance, using logs of configuration and parametrisation changes.

**3 POST-SALES**
- Monitors and logs cold room activity to optimise its regulation.
- Local and remote connectivity from a mobile phone, without the need for a local network or webserver, to access key information for maintenance, avoiding costly travel to the installation.

AKOCORE
AKO-58500 CAMM MODULE
Presence in over 90 countries

Consult our other ranges at
www.ako.com