**Controller for refrigerated cabinets, counters and islands, with energy-saving strategies**

### 1. MEASUREMENTS AND INSTALLATION

**Installation Precautions**
- The thickness of the panel must be between 0.3 and 2.0 mm (0.12 and 0.08 in).
- Ensure that the working condition are within the limits stated in the TECHNICAL SPECIFICATIONS section.
- Do not install the device close to heat sources, equipment with a strong magnetic field, in places subject to direct sunlight, rain, damp, excessive dust, mechanical vibrations or shocks.
- In compliance with safety regulations, the device must be installed properly to ensure adequate protection from contact with electrical parts. All protective parts must be fixed in such a way as to meet the aim of a tool to remove them.

**Electrical connection**
- Not use an inadequate gauge for the current running through. To reduce any electromagnetic interference connect the power cables as far away as possible from the signal cables.
- Power supply for TC324NR: 115...230 VAC.

**Installation Precautions**
- Universal power supply 115...230 VAC.
- Incorporated clock.
- Cabinet probe and evaporator probe (NTC, 10kΩ ohm at 77 °F).
- Door switch input.
- Alarm buzzer.
- RS-485 MODBUS subordinate port for BMS.
- Cooling or heating operation.

### 2. ELECTRICAL CONNECTION

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### 3. CONFIGURATION PARAMETERS

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### 4. USE INTERFACE AND MAIN FUNCTIONS

**Configuration parameters**

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### 5. USE INTERFACE AND MAIN FUNCTIONS

**Configuration parameters**

- Universal power supply 115...230 VAC.
- Incorporated clock.
- Cabinet probe and evaporator probe (NTC, 10kΩ ohm at 77 °F).
- Door switch input.
- Alarm buzzer.
- RS-485 MODBUS subordinate port for BMS.
- Cooling or heating operation.

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**Electrical connection**
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- Power supply for TC324NR: 115...230 VAC.

### 6. USE INTERFACE AND MAIN FUNCTIONS

**Configuration parameters**

- Universal power supply 115...230 VAC.
- Incorporated clock.
- Cabinet probe and evaporator probe (NTC, 10kΩ ohm at 77 °F).
- Door switch input.
- Alarm buzzer.
- RS-485 MODBUS subordinate port for BMS.
- Cooling or heating operation.

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### Technical Specifications

**Purpose of the control device**
- Function controller

**Construction of the control device**
- Built-in electronic device

**Self-exhausting**
- Yes

**Category of heat and fire resistance**
- T°C 3: 150°C (302°F)

**Mounting methods for the control device**
- Fixed to a panel, snap-in brackets provided

**Degree of protection provided by the covering**
- IP20 (front)

**Connection method**
- Suitable for screw terminal blocks for wire sizes 0.25 mm² to 2.5 mm²

**Maximum permitted length for connection cables**
- 20 m

**Input power supply**
- 100 V – 240 V AC (50/60 Hz)

**Digital inputs**
- 10 inputs: 0...10 V DC

**Digital outputs**
- 7 outputs: 0...10 V DC

**Measuring Devices**
- Thermometer: ±1 °C (0.1 °F) 1 °F (0.1 °C)

**Analog Inputs**
- 3 for NTC probes: cabinet probe and evaporator probe

**Output Power**
- 15...230 VAC (±10%), 50/60 Hz (±5%), 3 A

**Digital Inputs**
- 15 inputs: 0...10 V DC

**Type of Contact**
- 15 dry contacts

**Communication ports**
- iS = 4...20 ModBus subpart 4 for SMS

### Product Warranty

**Contact Information**

**Important**

The device must be disposed of according to local regulations governing the collection of electrical and electronic waste. Further information can be obtained from your local distributor or from the manufacturer.

**Software Terms and Conditions**

- This software is available under the terms of the GNU General Public License (GPL) or the GNU Lesser General Public License (LGPL).

**Declaration of Conformity**


**Contact Your Local Branch Office**

- DE 1 13 CHINA APAC 8 115, Subpart B, Class A limits

**Power Factor**
- 15...230 VAC (±10%), 50/60 Hz (±5%), 3 A

**Environmental Conditions**
- Operating temperature: 0...+40 °C (32...104 °F)
- Humidity: 0...80% RH non-condensing

**Energy Efficiency**
- 87% (UL1210A)

**Environmental Certification**
- CE Mark – Johnson Controls declares that this product is in compliance with the European Union's directives on electrical and electronic equipment.

**Packaging Information**
- The product is packed in a transportable container that is designed to prevent the loss of gases and liquids.