

**INTRODUCTION**

The **N321 / N322 / N323** temperature controllers present state-of-the-art technology, specially developed for matching the needs of the freezing and heating markets. They include jacks for **Pt100** and **Pt1000** type temperature sensors, **NTC** thermistors, or **J/K/T** type thermopairs. They are low-cost, easily assembled equipment, resulting in an excellent process optimization.

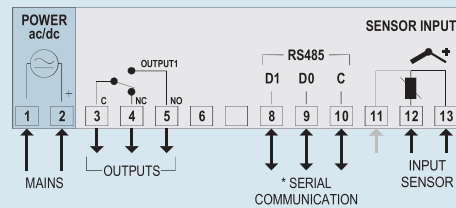
CE (European Union) and UL (United States and Canada) certifications compliant.



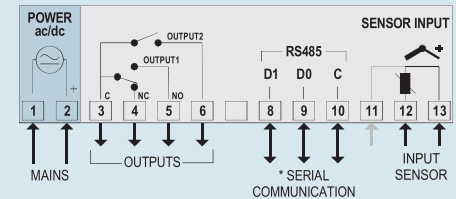
**FEATURES & SPECIFICATIONS**

- **N321:** One SPDT relay outlet, 1HP (16A resistive)/250 Vac
  - **N322:** One SPDT relay outlet, 1HP(16A resistive)/250 Vac plus one SPST relay, 3A (5A resistive)/250 Vac
  - **N323:** One SPDT relay outlet, 1HP(16A resistive)/250 Vac and two SPST relays, 3A (5A resistive)/250 Vac
  - LED indicators 3 ½ digits
  - Sensor offset adjustment
  - Adjustable hysteresis
  - Minimum and maximum range for configurable setpoints
  - Configuration is maintained even with energy failures
  - Configurable password for configuration lock
  - Long life silicone keys
  - Front-panel with IP65 protecton
  - Range of Measurement Temperature:
    - NTC: -50 to 120 °C (-58 to 248 °F)
    - Pt100: -50 to 300 °C (-58 to 572 °F)
    - Pt1000: -200 to 530 °C (-328 to 986 °F)
  - Keypad-selectable thermocouples:
    - J Thermocouple 0 to 600 °C (32 to 1112 °F)
    - K Thermocouple -50 to 1000 °C (-58 to 1832 °F)
    - T Thermocouple -50 to 400 °C (-58 to 752 °F)
  - Accuracy: NTC: 0.6 °C (1.08 °F); Pt100 and Pt1000: 0.7 °C (1.26 °F); Thermocouple: 3 °C (5.4 °F)
  - Resolution: 0.1 °C or 0.1 °F ranging from -19.9 to 199.9 °C/°F
  - Sampling: 1.5 times per second
  - Power supply: 100 to 240Vac/dc ±10%
  - Frequency: 50~60 Hz
  - Consumption: 5 VA
  - Dimensions: 75 x 33 x 75 mm. Panel cutout: 70 x 29 mm
  - Weight: 120 g
  - Operating temperature: 0 to 40 °C (32 to 104 °F)
  - Storage temperature: -20 to 60 °C (-4 to 140 °F)
- OPTIONAL**
- RS485 interface with Modbus RTU protocol (Only N322 and N323)
  - Power supply: 12 to 24Vcc
- APPLICATION**
- Freezers and cooling counters, multistage cooling and heating systems, aviaries, etc.

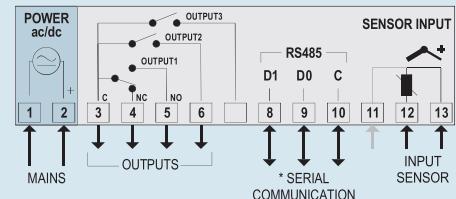
**ELECTRICAL CONNECTIONS**



**N321**



**N322**



**N323**

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TEMPERATURE CONTROLLERS

**HOW TO SPECIFY**

MODEL: **N321 - A - B - C**, where:

<b>A:</b> Sensor:	<b>NTC</b> or <b>Pt100</b> or <b>Pt1000</b> or <b>J/K/T</b> (Thermocouples)
<b>B:</b> Communication:	<b>Blank</b> or <b>485</b> (RS485, RTU Modbus Protocol)
<b>C:</b> Power supply:	<b>Blank</b> (100-240 Vac/dc) or <b>24V</b> (24 Vac/dc)