DIN500-N

Technical Specifications:

- **Power Supply Voltage**: 120VAC (North America) and 220V (EU)
- **Output Power**: Max 120V
- **Output Current**: Max 20A (use suitable wire gauge)
- **Temperature Range:-40°F to 248°F(-40°C to 120°C)**
- **Dimensions**: 160 mm x 120 mm x 90 mm

Product Settings via the App

1-Download the App

Download the free **Smart Life** or **Tuya Smart** APP and register an account with your cellphone number or email.

2-Pairing the Controller with Smart Life app

On the controller face, press and hold ▲ until the screen shows APP/ON. Then press and hold ▼ until the screen shows APP/--- (pairing mode). Open the app, tap Add Device (+), and follow the on-screen prompts.

3-APP Connection Tips

Connect your phone to the desired Wi-Fi network (2.4 GHz if prompted by the app).Enable Bluetooth on your phone. Enter the Wi-Fi password when asked and tap Next to complete pairing. After pairing, select Manual mode or Automatic mode in the app (Some functions will be different in Automatic and Manual mode). Use the items below to program and control the device.

1. Temperature Unit (°C / °F):

Tap the temperature unit option to switch between Celsius and Fahrenheit.

2. State (Working Status):

Shows whether the relay output is ON/OFF and whether the mode is Heating or Cooling.

3. Setting Temperature (ST) and Hysteresis (H)

Heating Mode:

Relay turns ON when Current Temp ≤ ST - H

Relay turns OFF when Current Temp ≥ ST

Example: ST = 30.0°C, H = 5.0°C -> heating starts at 25.0°C and stops at 30.0°C.

Cooling Mode:

Relay turns ON when Current Temp ≥ ST + H

Relay turns OFF when Current Temp ≤ ST

Example: ST = 30.0°C, H = 5.0°C -> cooling starts at 35.0°C and stops at 30.0°C.

4. Timer (Timed Tasks):

Create scheduled start/stop actions on a 24/7 clock. Choose one-time or repeat schedules.

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5. Delay (Delayed Tasks):

Set a delayed start or delayed stop (hours/minutes) as needed to prevent frequent ON/OFF cycling.

6. Threshold Alarms (High/Low Temperature):

High temperature alarm: disconnects the relay when the temperature exceeds the high limit and triggers an alarm.

Low temperature alarm: disconnects the relay when the temperature falls below the low limit and triggers an alarm.

7. Temp Offset (Temperature Calibration):

Use the offset to correct sensor deviation.

Corrected temperature = current temperature +/- (offset value).

8. Automatic / Manual Mode:

Choose the mode that matches your project. Manual mode provides direct control; Automatic mode uses set point and hysteresis control.

9. Heating/Cooling Switching and Delayed Start:

Switch between Heat and Cool modes. If needed, set a start delay in seconds.

10. Reserve (Advanced Program):

Create multiple steps with different times, temperatures, and hysteresis values (one-time or repeat). This is useful for multi-stage heating/cooling profiles.

Example program:

•Task 1: 2025-03-24 18:30 | Mode: Heat | Set: 50°F | Hys: 2°F

•Task 2: 2025-03-24 22:30 | Mode: Heat | Set: 45°F | Hys: 2°F

•Task 3: 2025-03-24 23:00 | Mode: Heat | Set: 40°F | Hys: 5°F

Result: heat to 50°F for 4 hours, then cool to 45°F for 30 minutes, then cool to ambient (40°F).

You can use repeat for all weekdays too (24/7).

11. Circle (Cyclic Time Tasks):

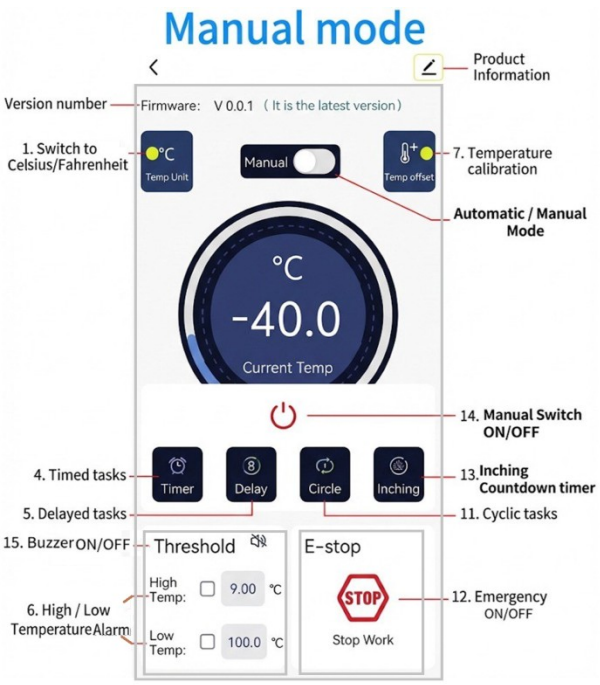
Create repeated cycles with run time and pause time.

Example: Run 2 hours -> pause 1 hour -> run 2 hours (repeat).

12. E-stop (Emergency OFF):

Tap STOP to immediately disconnect the relay and stop all operations. Tap again to resume.

13. Inching (Countdown Timer):
Enable inching mode for a single countdown run (1 s to 59 min 59 s).
14. Manual Switch (ON/OFF):
Turn the controlled device ON or OFF manually.
15. Buzzer (On/Off):
Enable or disable the buzzer as required.



Product Settings via Controller

You can change a few basic parameters on the controller face. For full programming features, use the Smart app.

Product Code Introduction

Code	Function	Range	Default
OTP	High Temperature Alarm	-40.°C-999.9°C	120°C
LTP	Low Temperature Alarm	-40°C-999.9°C	-40°C
DLY	Delayed Start	0 - 10s	0s
OFF	Temperature Calibration	-20°C - 20°C	0°C
bEP	Buzzer (On/Off)	On/Off	On
F-C	Temperatue Unit	°C/°F	°C
EAA	Sensor is disconnected		

Instructions:

1-Hold the settings button (⚙) to access the parameter setting.
2-Press the setting button (⚙) again to switch the next option.
3- Use ▲ (Up) and ▼ (Down) to change the value of the selected parameter.
4-Press and hold the Settings**(⚙)** again to save and exit.

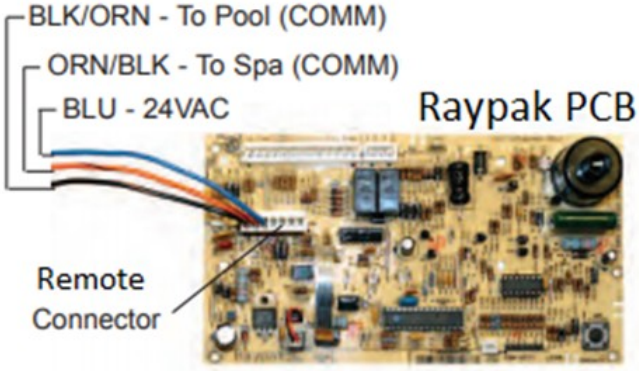
Wiring and Installation

Mount the **DIN500-N** on a wall about 4 ft (1.2 m) away from the heater. You can extend the two control switching wires (red and black/red) and the sensor cable up to 50 m.
Before wiring: confirm the device is paired in the app.
Important Safety Notes:
•Turn off power before wiring, Follow local electrical codes.
• Always follow the manufacturer's manual and if you are unsure, hire a qualified technician/electrician.
•Keep the sensor and controller away from direct heat sources and weather exposure where possible.

1. Heaters with Remote Function

Most new gas heaters have a **remote control input (Fireman Switch)** on the PCB controller. The **2 wires of the DIN500-N** have no voltage and act like a switch (**no voltage/no polarity**) to turn the heater **ON or OFF**.
This device has **2 wires** for switching and can control **one heating mode** at a time (either **pool** or **spa**).
Example: Wiring DIN500-N to a Raypak Gas Heater

1. Press the **Mode** button to select either **POOL** or **SPA** and set the temperature to the **highest setting** on the heater control panel. The actual temperature will be controlled by **DIN500-N**.
2. Turn the **heater OFF**.
3. Open the gas heater control panel. On the **heater PCB remote connector**, connect the **BLUE wire** to one of the two wires of the **DIN500-N**, and connect the other wire to either the **ORANGE/BLACK** wire for **SPA** operation or the **BLACK/ORANGE** wire for **POOL** operation. Note that wire colors may vary between manufacturers, so please check the **heater manual**.
4. Secure any **unused wires**, then turn the heater **ON** and **activate the remote function** (refer to the heater manual for activation instructions).



2. Heaters without Remote Function

Older gas heaters without a remote control function operate using a **mechanical thermostat**. In these cases, you can use the **2 wires of the DIN500-N** to **bypass** or **replace** the existing mechanical thermostat or switch in the circuit. Some heater models may also have a **jumper on the board** for remote control; refer to the **heater manual** for guidance.

Sensor Installation

The **plastic sensor holder** on the sensor is ¼ **NPT** and is typically compatible with the **Pump drain plug** or **heater drain plug** screw, if the drain is in inlet section. If there is any leak, use **Teflon tape** to seal the sensor holder or the inlet pipe of the heater completely. Alternatively, you can drill and tap a suitable flat area on one of the **inlet pipe connectors** to install the sensor.If preferred, you can **remove the sensor holder** and attach the sensor directly to the inlet pipe. Make sure to **cover and insulate** it completely to protect it from external weather for accurate temperature readings. You will need **foam insulation pads**, **aluminum foil**, and **duct tape** for insulation. Make sure to **remove the sensor** during winter months to prevent sensor damage.

DIN500-N Wi-Fi Pool Heater Controller Manual

For current product information, availability, and compatible options, use the verified ThermoMart links below. The preceding pages remain the original manual content.

CURRENT PRODUCT PAGE

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