

Walfront AR320

SMART SENSOR AR320 Infrared Digital Thermometer User Manual

Brand: Walfront | Model: AR320

1. INTRODUCTION

Thank you for purchasing the Walfront SMART SENSOR AR320 Infrared Digital Thermometer. This device is designed for non-contact temperature measurement, providing quick and accurate readings. It is widely applicable in various fields, including chemical industries, environmental monitoring, heating, and refrigeration systems. Its versatility makes it ideal for measuring temperatures in refrigerators, ovens, pools, and for general household or industrial use.



Image: The Walfront SMART SENSOR AR320 Infrared Digital Thermometer, showing its ergonomic design and clear LCD display.

2. SAFETY INFORMATION

Please read all safety warnings and instructions carefully before using this product. Failure to follow these instructions may result in injury or damage to the device.

- **Laser Safety:** This device emits Class II laser radiation. **DO NOT STARE INTO THE BEAM.** Avoid direct eye exposure to the laser.
- Do not point the laser at people or animals.
- Do not disassemble or modify the device. Unauthorized modifications may cause damage and void

the warranty.

- Keep the device away from water, moisture, and extreme temperatures.
- Use only the specified battery type. Ensure correct polarity when inserting batteries.
- Keep out of reach of children.



Image: A hand holding the AR320 thermometer, highlighting the laser warning label on the side of the device.

3. PRODUCT FEATURES

- **Comfortable Handle:** Constructed from high-quality rubber material, providing a comfortable grip and preventing accidental drops during extended use.
- **Wide Application:** Suitable for diverse environments, including chemical, environmental, heating,

and refrigeration industries. Excellent for measuring temperatures of food, water, and surfaces.

- **Easy to Use:** Features a passive infrared sensor for non-contact measurement. Hot and cold temperature readings can be taken with a single button press.
- **Backlit LCD Display:** Equipped with a backlit LCD screen for clear and easy reading in low-light conditions.
- **Low Battery Indicator:** Includes a low battery indicator to ensure you are aware when power is running low.
- **Quick Response:** Provides a rapid 0.5-second response time for efficient temperature readings.
- **Portable Design:** Compact and lightweight, making it easy to store and transport.

4. COMPONENTS AND CONTROLS



Image: Diagram showing the different components of the AR320 Infrared Digital Thermometer.

1. **LCD Display:** Shows temperature readings, unit, battery status, and other indicators.
2. **Measuring Switch (Trigger):** Press and hold to initiate temperature measurement.
3. **Backlight Switch:** Button to turn the LCD backlight on or off.
4. **°C/°F Unit Conversion Key:** Button to switch between Celsius and Fahrenheit temperature units.
5. **Laser Point Key:** Button to activate or deactivate the laser pointer for targeting.
6. **Battery Door:** Compartment for battery installation.

5. SETUP

5.1 Battery Installation

The AR320 thermometer operates on batteries (included). To install or replace batteries:

1. Locate the battery door on the handle of the device.
2. Open the battery door.
3. Insert the batteries, ensuring correct polarity (+ and -) as indicated inside the compartment.
4. Close the battery door securely.

The device is now ready for use.

6. OPERATING INSTRUCTIONS

6.1 Taking a Measurement

1. Point the thermometer at the target surface.
2. Press and hold the **Measuring Switch (Trigger)**. The temperature reading will appear on the LCD display.
3. Release the trigger to hold the reading on the display.

6.2 Switching Temperature Units (°C/°F)

To switch between Celsius (°C) and Fahrenheit (°F):

- Press the **°C/°F Unit Conversion Key** located below the LCD display. The unit on the display will change accordingly.

0.5 second non-contact fast response

Passive infrared sensor, hot and cold temperature measurement with one button



Image: The AR320 thermometer illustrating the ability to switch between Celsius and Fahrenheit temperature scales.

6.3 Using the Backlight

To illuminate the LCD display in low-light conditions:

- Press the **Backlight Switch** button. Press it again to turn the backlight off.

6.4 Using the Laser Pointer

The laser pointer helps in precise targeting of the measurement area:

- Press the **Laser Point Key** to turn the laser on.
- Press it again to turn the laser off.
- **Important:** Refer to Section 2 (Safety Information) regarding laser safety.



Image: The AR320 thermometer with its laser pointer activated, indicating the measurement target.

6.5 Distance-to-Spot Ratio (D:S)

The AR320 has a Distance-to-Spot ratio (D:S) of 12:1. This means that at a distance of 12 units from the target, the measurement spot diameter will be 1 unit. For accurate readings, ensure the target area is larger than the spot size.



Image: Side view of the AR320 thermometer, illustrating the Distance-to-Spot ratio for accurate measurement.

7. MAINTENANCE

7.1 Cleaning

- To clean the device, use a soft, damp cloth. Do not use abrasive cleaners or solvents.
- Ensure the lens is clean for accurate readings. Use a soft cloth or cotton swab with a small amount of lens cleaner if necessary.

7.2 Storage

- Store the thermometer in a cool, dry place, away from direct sunlight and extreme temperatures.

- If storing for an extended period, remove the batteries to prevent leakage.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
Device does not power on.	Low or dead batteries; incorrect battery installation.	Replace batteries with new ones. Ensure correct polarity.
Inaccurate readings.	Lens is dirty; target is too small or too far; emissivity setting (not adjustable on this model, but general IR issue).	Clean the lens. Ensure the target fills the measurement spot. Maintain appropriate distance (D:S ratio).
LCD backlight not working.	Backlight function is off; very low battery.	Press the Backlight Switch. Replace batteries if low.
Laser pointer not working.	Laser function is off; very low battery.	Press the Laser Point Key. Replace batteries if low.

9. SPECIFICATIONS

Parameter	Value
Model	AR320
Temperature Range	-32°C ~ 380°C (-25.6°F ~ 716°F)
Accuracy	± 2% or 2°C
Distance-to-Spot Ratio (D:S)	12:1
Emissivity	0.95 (Default)
Resolution	0.1°C or 0.1°F
Wavelength & Response Time	(8-14) μm and 500ms
Repeatability	± 1% or ± 0.1°C
Power Source	Battery operated
Dimensions (L x W x H)	14.1 x 7.01 x 3.4 cm (5.55 x 2.76 x 1.34 inches)
Weight	140.61 g
Material	Rubber (Exterior)

Parameter	Value
Color	Orange

10. WARRANTY AND SUPPORT

For product support, technical assistance, or warranty inquiries, please contact Walfront customer service.

- **Return Policy:** This product is eligible for a 30-day free return policy from the date of purchase. Please refer to the retailer's return policy for detailed terms and conditions.
- **Manufacturer:** Walfront
- **Online Store:** You can visit the official Walfront store on Amazon for more information and products: [Walfront Amazon Store](#)