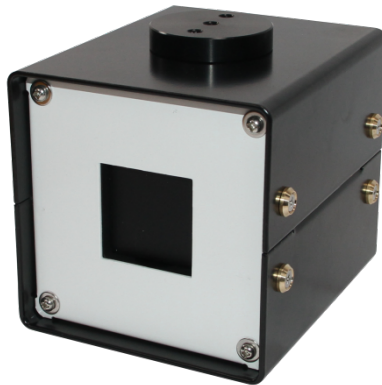


Blackbody calibration source series

User Manual

BRM100

Blackbody Calibration Source



1. Description

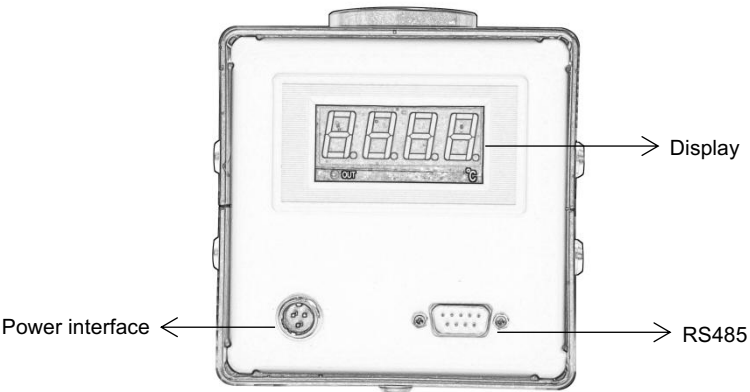
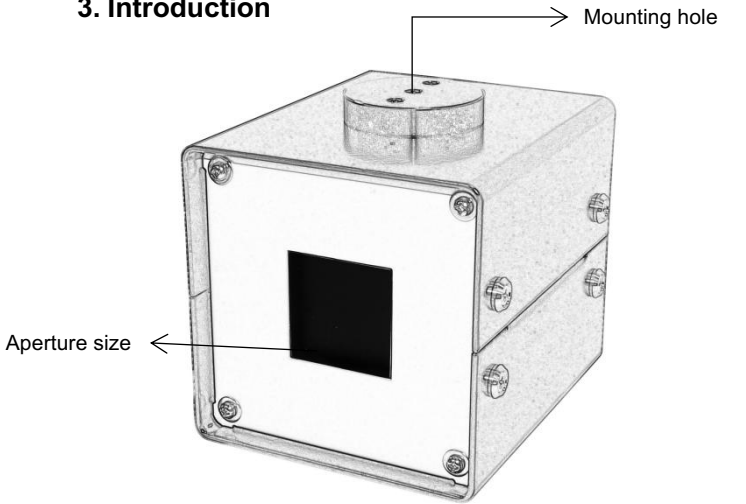
The BRM100 is a rugged calibration source and suitable for use as a primary radiation source for calibration and verification of infrared thermometers.

- Adopts an intelligent temperature control system with high precision and good temperature stability, and has a temperature correction function.
- The target surface uses high-emissivity coating, which has a high emissivity rate, uniform black layer that is not easy to discolor or fall off.
- Small size, light weight, convenient for installation and carrying, can be widely used in various temperature calibration occasions.

2. Specification

Temperature Range : Factory default 40.00°C (Tamb +5°C-100°C)
Accuracy : $\pm 0.2^{\circ}\text{C}$
Temperature resolution : 0.01°C
Aperture size : 40mm×40mm
Emissivity : 0.96 ± 0.01
Temperature stabilization time : $\pm 0.05^{\circ}\text{C}/10\text{min}$
Temperature sensor : PT100
Controller : PID
Warm up time : $10^{\circ}\text{C}/15\text{min}$
Ambient Temperature : $0^{\circ}\text{C}\sim 45^{\circ}\text{C}$
Power supply : 100-220V
Dimensions (L*W*H) : D130mm ×W110mm ×H110mm
Weight : <1.1kg
Mounting hole : $\Phi 30\text{mm}$, 1/4 20UNC
Interface : RS485

3. Introduction



4. Operation

- a) Connect one end of the power cable (with power adapter) to the power interface of the blackbody, and the other end to an external three-prong 220VAC/10A grounded power source.
- b) Turn on the power, and the blackbody will start working. The display will show the current temperature of the blackbody.
- c) The factory default temperature of the blackbody is set to 40°C. After the temperature stabilizes for 10 minutes, you can start calibration. If you need to adjust the set temperature, you can do so through the customer software.
- d) When the work is finished, simply turn off the external power source.

5. Notice

- Ensure the placement area is free of oil stains and chemicals, and there are no flammable or explosive materials.
- The BRM100 blackbody can be installed using the reserved mounting holes. During installation, avoid touching the radiation surface and do not install it upside down.
- The operating environment is 0°C to 45°C. Do not place it in a high or low temperature chamber without authorization.
- Be sure to use a grounded socket.
- The blackbody should not be used for applications other than temperature testing and calibration.
- Do not disassemble or modify the blackbody without authorization. Unauthorized disassembly or modification will void the warranty.
- Do not touch the radiation surface of the blackbody to avoid scratches that could affect temperature measurement accuracy. If there is dust on the radiation surface, use a soft brush to remove it.
- For indoor use only. The operating environment should have no significant air convection, strong light exposure, strong electromagnetic interference or vibration.
- Ensure there is adequate ventilation space around and below the blackbody, maintaining a distance of at least 10 cm from surrounding objects.

6. Package Content

1. BRM100 blackbody calibration source x1
2. Operator's manual (electronic version)
3. Test report x 1
4. Power adapter x 1
5. RS485 cable x 1
6. USB to RS485 converter x 1
7. Software x 1