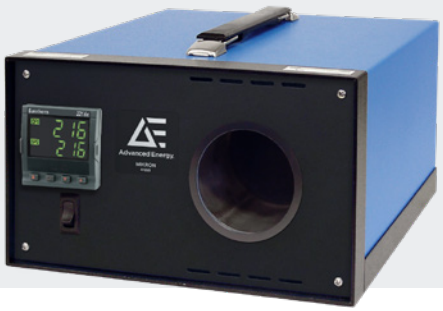
MIKRON M310-HT

Portable, compact low temperature blackbody calibration source with a large surface area. Ambient +5 to 450°C (+9 to 842°F).



The Mikron® M310-HT is a portable blackbody calibration source utilizing a digital indicating temperature controller that may be set to any temperature between ambient 5 to 450°C (9 to 842°F). A precision platinum RTD temperature sensor is embedded in the blackbody emitter, providing high accuracy and repeatability. The temperature controller uses the industry standard PID algorithms to control the emitter temperature to within 0.3°C of the set points. The blackbody emitter mechanism uses a resistive heating device that provides a long life, short stabilization times, and stable temperature control.

PRODUCT HIGHLIGHTS

- Excellent general purpose calibration
- High effective emissivity 1.00 @ 8 to 14 µm
- High accuracy, high resolution
- Excellent stability ±0.3°C per 8 hour period
- Manufactured and tested to meet rigid quality control standards
- Furnished with certificate of calibration traceable to NIST
- RS232 serial communication included

TYPICAL APPLICATIONS

- Infrared temperature sensors
- Infrared thermal imaging systems
- Spectrographic analyzers
- Radiometers
- Flux meters

AT A GLANCE

Temperature Range

Ambient +5 to 450°C (+9 to 842°F)

Measurement Uncertainty

0.25% of reading ±1°C

Emissivity

1.00 effective emissivity @ 8 to 14 µm

Heated Emitter Shape

Flate plate

Aperture Diameter

76 mm (3.00 in)

Average Warm-Up Time

< 30 min from ambient (to 400°C)

MIKRON M310HT

OVERVIEW

Blackbody calibration sources are infrared radiators used for calibrating and verifying the output signals of infrared thermometers (pyrometers), thermal imaging systems, heat flux measurement systems, or spectrographic analysis systems. Advanced Energy supplies a unique selection of very precise calibration sources that are traceable to national standards. Quotations for custom designs and variations are available upon request.

Mikron calibration sources have long been the gold standard to calibrate the instruments that keep your operations up and running. These blackbodies are superior because of the emissivity values, homogeneous emission areas, and a wide range of different sized apertures to adapt to the desired target area. In addition, fast heat-up times and high temperature stability are guaranteed. The quality of our calibration sources is guaranteed by tests, burn-in times, and radiometric calibrations. On most models, a certificate is provided to document the traceability to the international temperature scale ITS90 and NIST.

TECHNICAL DATA

Measurement Specifications	
Temperature Range	Ambient +5 to 450°C (+9 to 842°F)
Temperature Uncertainty[1]	0.25% of reading ±1°C
Display Accuracy vs. NIST Calibration	See supplied NIST calibration report
Temperature Resolution	0.1°C
Stability[2]	0.3°C per 8-hour period
Source Non-Uniformity	Approximately ±1°C @ 250°C or ±2°C @ 400°C
Heated Cavity Shape	Flat plate
Exit Port Diameter	76 mm (3.00 in)
Emissivity ε	1.00 effective emissivity @ 8 to 14 µm
Standard Calibration Method	Radiometric at 8 to 14 µm
Temperature Sensor	Precision platinum RTD
Warm-up Time	< 30 minutes from ambient to 400°C
Slew Rate to 1°C Stability	Approximately 6 min for a + 50°C change
Slew Rate to 0.1°C Stability	Approximately 10 min for a +50°C change

Environmental Specifications	
Operating Ambient Temp	0 to 44°C (30 to 110°F)
Cooling	Fan cooled, air inlet on rear panel
Operating Humidity	90% RH max, non-condensing
Dimensions (H x W x D)	207.3 mm x 280.4 mm x 266 mm (8.2" x 11" x 10.5")
Weight	5.6 kg (12.4 lbs)
CE Certified	Yes

1 Accuracy calibration performed radiometrically, the uncertainty of emissivity and transfer standard are already included.

2 Provided stable AC mains voltage and minimum air flow across the exit port or emitter plate.

TECHNICAL DATA (CONTINUED)

Communication and Electrical Specifications	
Remote Set Point	Via RS232
Method of Control	Digital PID controller
Power Requirements	115 VAC ±10% 50 and 60 Hz 920 VA fused max, 600 W heater (230 VAC Optional)

REFERENCE NUMBERS

PN	Description
14760-1-1-1-2-0-2	M310-HT, Ambient 5 to 450°C, 76 mm, 115 VAC @ 50 and 60 Hz, RS232, North American cable
14760-2-2-1-2-1-2	M310-HT, Ambient 5 to 450°C, 76 mm, 230 VAC @ 50 and 60 Hz, RS232, German cable

上海麦兴仪器设备有限公司
Shanghai MaxSun Industrial Co., Ltd.
地址：上海市浦东新区张杨路188号汤臣中心
邮编：200122
电话：(86 21) 5888 6718 / 133 8186 8102
传真：(86 21) 5888 7876
邮箱：mx@imaxsun.com

麦兴（中国）有限公司
MaxSun (China) Limited.
地址：香港湾仔告士打道151号国卫中心11楼
电话：(852) 2836 8361
传真：(852) 3011 5863
邮箱：mx@imaxsun.com