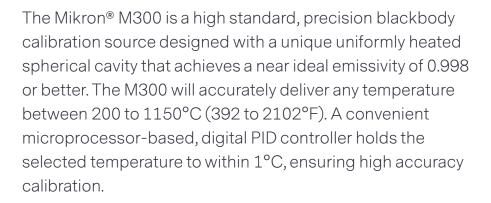
# MIKRON M300

Medium temperature large blackbody calibration source with high emissivity for calibration independent of the wavelength.

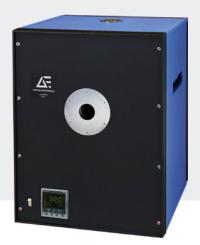


#### **PRODUCT HIGHLIGHTS**

- Superior accuracy within ±0.25% of reading ±1°C
- Large 51 mm (2") aperture diameter
- Rugged housing designed for fixed installation in a laboratory or test department
- Manufactured and tested to meet rigid quality control standards
- Furnished with certificate of calibration traceable to NIST
- RS232 (standard) or RS485 (option) serial communication output

#### **TYPICAL APPLICATIONS**

- Infrared temperature sensors
- Infrared thermal imaging systems
- Spectrographic analyzers
- Spectral radiometers
- Heat flux meters



### **AT A GLANCE**

#### **Temperature Range**

200 to 1150°C (392 to 2102°F)

#### **Measurement Uncertainty**

±0.25% of reading ±1°C

#### **Emissivity**

1.0 effective @ 0.65 to 1.8  $\mu$ m, ~0.998 for others

#### **Heated Emitter Shape**

Spherical

## **Aperture Diameter**

51 mm (2")

#### **Average Warm-Up Time**

60 min from ambient (to 1000°C)

#### **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	200 to 1150°C (392 to 2102°F)	
Temperature Uncertainty	±0.25% of reading ±1°C (when using Calibration Certificate correction factors)	
Temperature Resolution	0.1°C	
Stability <sup>1</sup>	±0.5°C per 8-hour period	
Source Non-Uniformity	±0.1% of reading ±1°C	
Heated Cavity Shape	Spherical	
Exit Port Diameter	51 mm (2")	
Emissivity ε	1.0 effective @ 0.65 to 1.8 μm	
	~0.998 for others	
Standard Calibration Method	Radiometric (pyrometric)	
Temperature Sensor	Thermocouple	
Warm-up Time	60 minutes from ambient to 1000°C	
Slew Rate to 1°C Stability	~5° per min ambient to 200°C	
	~12° per min 300 < T < 800°C	
	~8° per min avg T > 800°C	
Slew Rate to 0.1°C Stability	~60 minutes between $\Delta$ 100°C setpoints	

Communication and Electrical Specifications	
Remote Set Point	Via serial port
Method of Control	Digital self tuning PID controller
Power Requirements	208/230 VAC ±10% 50/60 Hz 11A Max

<sup>1</sup> Provided stable AC mains voltage and minimum air flow across the exit port or emitter plate.



## **TECHNICAL DATA (CONTINUED)**

Environmental Specifications	nvironmental Specifications	
Operating Ambient Temp	0 to 44°C (32 to 110°F)	
Cooling	Fan cooled, air inlet on rear panel	
Operating Humidity	90% RH max, non-condensing	
Dimensions (H x W x D)	640 mm x 500 mm x 572 mm (25.2" x 19.7" x 22.5")	
Weight	80 kg (175 lbs)	
CE Certified	Yes	

#### **REFERENCE NUMBERS**

Ы	V	Description
18	3680-3	M300, 200 to 1150°C, 51 mm, RS232, 208 to 240 VAC @ 50 and 60 Hz

## **ACCESSORIES**

PN	Description	
14002-1	Cold aperture wheel assembly, 6 apertures 25.4 to 2.54 mm, for M300, M305, M330, M335, M390	
14002	Cold aperture wheel assembly, 6 apertures 50 to 1.56 mm, for M300, M305, M330, M335, M390	
19140-485	Optional: Serial Communication Output RS485 (built-in ex works) for M300, M305, M315X, M335, M345X, M360, M360A, M390	
3840810	IGA 12-TSP, 1570 nm, 200" 1020°C, through-lens-sighting, laser targeting, focusable Optics 2	
3840820	IGA 12-TSP, 1570 nm, 250" 1400°C, through-lens-sighting, laser targeting, focusable Optics 2	

## 上海麦兴仪器设备有限公司

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