

## MIKRON IRC 45 TO IRC 150

Calibration source with a single fixed temperature for inspection of pyrometers. Temperatures ranging from 45 to 150°C (113 to 302°F).



The Mikron® calibration sources of type IRC 45 to IRC 150 are instruments for inspection of the measurement accuracy of pyrometers (radiation thermometers) at a fixed temperature value. The highly accurate control ensures a constant and stable heating of the large emitter surface with a high temperature uniformity with a maximum deviation of 0.2°C. The robust stainless steel design guarantees the operation even under rough industrial environments. The compact dimensions also allows for verifying fixed installed pyrometers at the measuring location.

### PRODUCT HIGHLIGHTS

- Nine different types for fixed adjusted temperatures of 45°C, 70°C, 75°C, 95°C, 100°C, 110°C, 120°C, 140°C, or 150°C
- High emissivity: 98%
- Large aperture diameter: 50.8 mm (2")
- Short warm-up time
- High temperature stability
- Small dimensions
- Stainless steel housing

### TYPICAL APPLICATIONS

- Single point temperature calibrations of point IR pyrometers
- Fixed mount and portable pyrometer calibration verification

### AT A GLANCE

#### Fixed Temperatures

45°C, 70°C, 75°C, 95°C, 100°C, 110°C, 120°C, 140°C, or 150°C

#### Measurement Uncertainty

IRC 45 to IRC 120  
0.4°C for  $T_U = 10$  to 40°C  
0.6°C for  $T_U = 0$  to 10°C

IRC 140 to IRC 150  
0.5°C for  $T_U = 10$  to 40°C  
0.7°C for  $T_U = 0$  to 10°C

#### Emissivity

0.98 ±0.004 (for  $\lambda = 2$  to 5.4  $\mu\text{m}$   
 $\lambda = 8$  to 14  $\mu\text{m}$ )

#### Aperture Diameter

50.8 mm (2")

#### Warm-up Time

max. 5 (IRC 45) to 30 min (IRC 150)

TECHNICAL DATA

Measurement Specifications		
Fixed Temperature (dependent on type)	45°C (113°F), 70°C (158°F), 75°C (167°F), 95°C (203°F), 100°C (212°F), 110°C (230°F), 120°C (248°F), 140°C (284°F), or 150°C (302°F)	
Temperature Uncertainty	IRC 45 to IRC 120	0.4°C for T <sub>U</sub> = 10 to 40°C
		0.6°C for T <sub>U</sub> = 0 to 10°C
	IRC 140 to IRC 150	0.5°C for T <sub>U</sub> = 10 to 40°C
		0.7°C for T <sub>U</sub> = 0 to 10°C
Stability	0.1°C	
Temperature Uniformity	0.2°C (central area Ø 45 mm)	
Emissivity ε	0.98 ±0.004 (for λ = 2 to 5.4 μm λ = 8 to 14 μm)	
Aperture Diameter	50.8 mm (2")	
Repeatability	0.2°C	
Warm-up Time	max 5 (IRC 45) to 30 min (IRC 150)	

Environmental and Electrical Specifications	
Operating Temperature	0 to 40°C (32 to 104°F), temporary (2 min) up to 70°C (158°F)
Storage Temperature	0 to 70°C (32 to 158°F)
Relative Humidity	10 to 85%, non-condensing conditions
Status LED:	Green: warm-up
	Orange: ready for operation
	Red: overheating
Protection Class	IP50 (EN 60529)
Dimensions (Ø x D x H)	64.5 mm x 81.0 mm x 133.5 mm (~2.54" x 3.19" x 5.26")
Weight	0.85 kg (~1.88 lbs)
Power Supply	24 V DC, max 1 A
CE Certified	According to EU directives about electromagnetic immunity

## REFERENCE NUMBERS

PN	Description
3 891 130	Calibration source IRC 45
3 891 140	Calibration source IRC 70
3 891 150	Calibration source IRC 75
3 891 160	Calibration source IRC 95
3 891 170	Calibration source IRC 100
3 891 180	Calibration source IRC 110
3 891 410	Calibration source IRC 120
3 891 190	Calibration source IRC 140
3 891 200	Calibration source IRC 150

## Scope of Delivery

Calibration source, stand, power supply 230 V AC  $\Rightarrow$  24 V DC, user manual, works certificate

## ACCESSORIES

PN	Description
3 890 420	Plastic carrying bag



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## ABOUT ADVANCED ENERGY

Advanced Energy (AE) has devoted more than three decades to perfecting power for its global customers. AE designs and manufactures highly engineered, precision power conversion, measurement and control solutions for mission-critical applications and processes.

AE's power solutions enable customer innovation in complex semiconductor and industrial thin film plasma manufacturing processes, demanding high and low voltage applications, and temperature-critical thermal processes.

With deep applications know-how and responsive service and support across the globe, AE builds collaborative partnerships to meet rapid technological developments, propel growth for its customers and power the future of technology.

PRECISION | POWER | PERFORMANCE

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