



ECN100 series

Extended area blackbodies

INTRODUCTION

The ECN100 blackbodies are extended area infrared reference sources delivered in two parts: a compact emissive head and an electronic controller.

The emissive head includes an exclusive emissive surface made of micro-pyramids. The emissivity and thermal uniformity of these blackbodies are thus particularly high. Moreover, since the surface is made of such micro-cavities, these sources can be used over a wide range of wavelengths from near-IR to far IR.

A user-friendly touchscreen control panel located on the front of the electronic unit enables precise temperature selection and stabilisation. Temperature regulation is achieved via a PID controller with real time adjusted parameters.

The main applications of these sources are calibration of sensors such as thermal imagers and line scanners, large spectral bandwidth reference source, sample emissivity or transmission measurement, real size infrared targets, etc.

The robust structure of the emissive head enables lab or field condition operation.

CONFIGURATION

- Large emissive area up to 1000x1000 mm with high uniformity
- Maximum temperature up to 550 °C
- Exceptionally high emissivity thanks to micro-pyramidal surface
- Real time display of surface and set point temperature
- Microprocessor regulated temperature with PID real time adjusted parameters
- Control through touchscreen panel
- Remote control via Ethernet link

OPTIONS

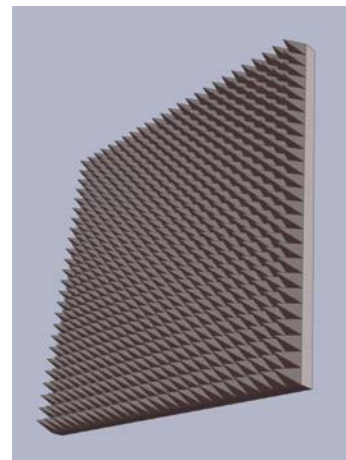
- IEEE488, RS232 interface
- Radiometric calibration over bandwidth of 3-5 μm or 8-14 μm
- Specific target patterns
- Extra sensor for target temperature measurement



ECN100 family blackbodies



ECN100N20 + electronic unit



ECN100 blackbody emissive area

TECHNICAL DATA

	ECN100 N6	ECN100 N12	ECN100 N20	ECN100 H6	ECN100 H12
Emissive area (mm) :	150 x 150	300 x 300	500 x 500	150 x 169	300 x 350
Temperature range (°C) :	50 to 300	50 to 300	50 to 300	50 to 550	50 to 550
Emissive area uniformity at 100 °C (°C) :	± 0.5	± 1	± 1	± 0.5	± 1
Maximum power consumption (W) :	1000	2400	5000	2500	4500
Emissivity :	0.98 ±0.02	0.98 ±0.02	0.98 ±0.02	0.98 ±0.02	0.98 ±0.02
Dimensions W x H x D (mm) :	342x428x155	480x600x170	694x820x300	423x467x247	618x677x340
Blackbody weight (kg) :	12	25	55	20	40
Electronic unit size :	3U x 19"	3U x 19"	4U x 19"	3U x 19"	3U x 19"
Electronic unit weight (kg) :	9.5	9.5	10.5	9.5	9.5
Warm-up time :	from ambient to 250 °C: 30 min; from ambient to 500°C: 40 min				
Stability (°C) :	±0.02				
Power supply :	115/230 VAC, 1 ph. 50/60 Hz				
Temperature sensor accuracy (°C) :	±(0.1°C + 0.17%.T)				
Temperature sensor :	calibrated PT sensor				
Regulator type :	real time PID adjustment				
Display resolution :	0.01 °C (actual temp. and set point display)				
Remote control :	Ethernet interface				

Above information is subject to changes without notice



ZAC de la sablière, 10 rue Maryse Bastié
91430 IGNY – France

Tél : +33 1 69 35 47 70 Fax : +33 1 69 35 47 80

e-mail : hgh@hgh.fr <http://www.hgh.fr>