

→ Infrared validation test equipment

# ECN100 series

EXTENDED AREA

BLACKBODY

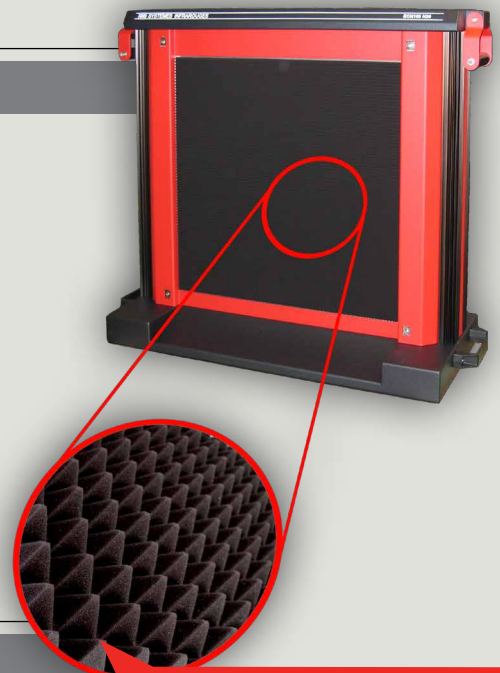
## INTRODUCTION

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.



→ ECN micropyramidal structure

## CONFIGURATION

- Large emissive area up to 500x500 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

- Ultra large emissive area up to 1000x1000 mm with high uniformity
- IEEE488, RS232 interface
- Radiometric calibration over bandwidth of 3-5 μm or 8-14 μm
- Specific target patterns
- Extra sensor for target temperature measurement
- LabVIEW drivers
- e-BlackBody application



### NEW FEATURES

- LabVIEW drivers for all communication interfaces
- Remote control through e-Blackbody smartphone application

# ECN100 series

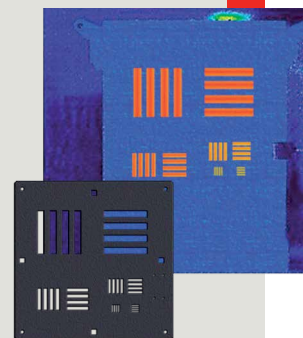
EXTENDED AREA BLACKBODY



→ ECN 100 H6 & N20



→ Extended area blackbodies



→ ECN and MRTD target

## TECHNICAL DATA

	ECN100 N6	ECN100 N12	ECN100 N20	ECN100 H6	ECN100 H12
Emissive area	150 x 150 mm <sup>2</sup>	300 x 300 mm <sup>2</sup>	500 x 500 mm <sup>2</sup>	150 x 169 mm <sup>2</sup>	300 x 350 mm <sup>2</sup>
Temperature range	50°C to 300°C	50°C to 300°C	50°C to 300°C	50°C to 550°C	50°C to 550°C
Emissive area uniformity at 100 °C	± 0.5°C	± 1°C	± 1°C	± 0.5°C	± 1°C
Max. power consumption	1000 W	2400 W	5000 W	2500 W	4500 W
Emissivity / Apparent emissivity after calibration	0.98 ±0.02				
Head dimensions W x H x D	342x428x155 mm <sup>3</sup>	480x600x170 mm <sup>3</sup>	694x820x300 mm <sup>3</sup>	423x467x247 mm <sup>3</sup>	618x677x340 mm <sup>3</sup>
Head weight	12 kg	25 kg	55 kg	20 kg	40 kg
Electronic unit size	3U x 19"	3U x 19"	4U x 19"	3U x 19"	3U x 19"
Electronic unit weight	9.5 kg	9.5 kg	10.5 kg	9.5 kg	9.5 kg
Regulation type	real time PID adjustment				
Stability	±0.02°C				
Power supply	115/230 VAC, 1 ph. 50/60 Hz				
Temperature sensor type	calibrated Pt sensor				
Temperature measurement accuracy	±(0.1°C + 0.17%.T)				
Display resolution	0.01°C (actual temperature and set point display)				
Warm-up time	from ambient to 250 °C: 30 min; from ambient to 500°C: 40 min				
Remote control	Ethernet interface (RS-232 or IEEE 488 in option)				

Above information is subject to change without notice



Edificio Antalia  
Albasanz, 16  
28037 MADRID  
Tel. 91 567 97 00  
Fax: 91 570 26 61

[www.alavaingenieros.com](http://www.alavaingenieros.com)

Torre Mapfre-Vila Olímpica  
Marina, 16 - Planta 11-C 2  
08005 BARCELONA  
Tel. 93 459 42 50  
Fax: 93 459 42 62

[alava@alava-ing.es](mailto:alava@alava-ing.es)



WWW.HGH.FR