

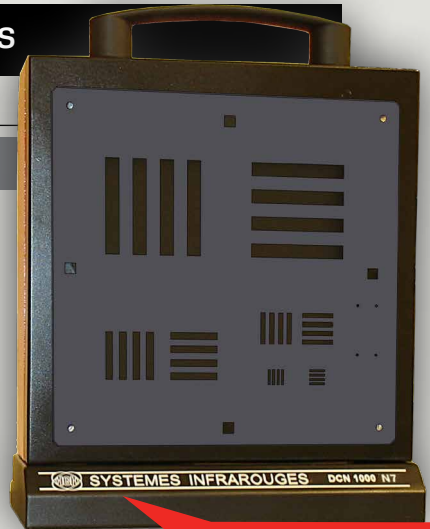
→ Infrared validation test equipment



DCN1000N/H series

ABSOLUTE AND DIFFERENTIAL TEMPERATURE

BLACKBODIES



> DCN1000 N7 and MRTD target

INTRODUCTION

The DCN1000N/H extended area blackbodies are differential and absolute infrared reference sources. They can be used as low temperature infrared reference sources. They consist of an emissive head which temperature is controlled via an electronic unit with real time adjusted PID regulator. The emissive head also includes a target support.

The emissive surface temperature is controlled with high precision and stability at temperatures below or above target temperature. Both the target and the emissive surface temperatures are measured in real time thanks to high precision calibrated Pt sensors.

Various sizes of emissive area are available to suit applications such as thermal imager characterisation with MRTD, LSF and NETD targets, focal plane array calibration, infrared sensor non uniformity correction, etc.



> DCN1000 & motorized target wheel

CONFIGURATION

- Extended areas up to 300 mm x 300 mm
- Differential and absolute modes operation
- Real time display of emissive area and set point temperature
- Fast response time and high stability
- High thermal uniformity and emissivity
- Compact emissive head
- Absolute temperature range from -15 °C to +150 °C
- Control through touchscreen panel
- Radiometric calibration over bandwidth of 8-14 μm
- Remote control via Ethernet link.



OPTIONS

- IEEE488, RS232 interfaces
- Radiometric calibration over bandwidth of 3-5 μm
- Motorized target wheel
- Targets for NETD, LSF/MTF, MRTD, distortion ...
- NETD, LSF/MTF and MRTD calculation software
- Enhanced accuracy of absolute mode (+/-0.01°C)
- Climatic chamber operating conditions
- LabVIEW drivers
- e-BlackBody smartphone application

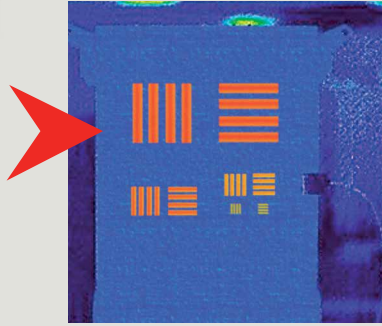


NEW FEATURES

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

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> DCN1000 - collimator reference source

TECHNICAL DATA

	DCN1000 H2	DCN1000 H3	DCN1000 N4	DCN1000 H4	DCN1000 N7	DCN1000 N12
Emissive area	50mm x 50mm	75mm x 75mm	100mm x 100mm	100mm x 100mm	180mm x 180mm	300mm x 300mm
Temperature range						
• absolute (20°C ambient temp)	-15°C to +150°C	-15°C to +150°C	-5°C to +100°C	-15°C to +150°C	-5°C to +150°C	-5°C to +150°C
• differential	-35°C to +130°C	-35°C to +130°C	-25°C to +80°C	-35°C to +130°C	-25°C to +130°C	-25°C to +130°C
Thermal uniformity at ambient ±5 °C / at 50 °C	± 0.01°C / 0.3°C	± 0.01°C / 0.3°C	± 0.01°C / 0.3°C	± 0.01°C / 0.3°C	±0.03°C / 0.4°C	±0.04°C / 0.4°C
Max. power consumption	800 W	800 W	800 W	900 W	1200 W	1700 W
Head dimensions W x H x D	115x198x111 mm ³	145x198x111 mm ³	192x215x120 mm ³	192x215x120 mm ³	235x257x215 mm ³	355x377x215 mm ³
Head weight	2 kg	3 kg	5 kg	5 kg	15 kg	25 kg
Electronic unit size	3U x 19"	3U x 19"	3U x 19"	4U x 19"	4U x 19"	4U x 19"
Electronic unit weight	11 kg	11 kg	11 kg	20 kg	20 kg	20 kg
Emissivity / Apparent emissivity after calibration	0.98 ±0.02 / 1.00					
Regulation type	real time PID adjustment					
Stability	±0.002 °C					
Temperature sensor type	calibrated Pt sensor					
Temperature measurement accuracy	differential mode : ±0.01°C absolute mode : ±0.03°C					
Display resolution	0.001°C (actual temperature and set point display)					
Warm-up time from ambient to 50 °C ±0.2 °C	60 seconds	60 seconds	60 seconds	60 seconds	60 seconds	90 seconds
Stabilisation time	at ±0.01°C for a ΔT<10°C : less than 1 minute					
Remote control	Ethernet interface (RS232 or IEEE488 in option)					
Power supply	115/230 VAC, 1 ph., 50/60 Hz					
Operating ambient temperature	Control unit: + 5°C to +45°C - Head: -20°C to +70°C (-54°C to +71°C in option)					



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