

THZ-D

THz Detectors for use with our universal displays & PC interfaces



KEY FEATURES

- > **COVERS THE ENTIRE THZ SPECTRUM**
Get the best precision across the entire wavelength range and relative measurements from 30 THz to 0.1 THz.
- > **ROOM TEMPERATURE OPERATION**
Easier to use and less expensive than a Goly cell.
- > **CALIBRATED AT 10.6 μm**
THZ-D detectors are calibrated at a single wavelength 10.6 μm (30 THz) and at 10 Hz chopping frequency for the THZ9D. Both include typical wavelength correction data from 10.6 to 440 μm . They are used for relative measurements outside that range.
- > **LARGE AREA**
Models range from 9 mm \varnothing for the THZ9D and 12 mm \varnothing for the THZ12D.
- > **WIDE RANGE OF MEASUREMENTS**
Measure from 100 μW to 3 W of continuous power with the THZ12D model, the highest in our terahertz range of products, and down to 5 μW to 25 mW with the THZ9D model.
- > **USE WITH A UNIVERSAL DISPLAYS & PC INTERFACE**
No need for an exclusive monitor. These unique THz detectors work with our display & PC interface.
- > **SDC-500 OPTICAL CHOPPER**
The THZ9D model requires the use of an optical chopper, like our SDC-500, running at 10 Hz.

OUTPUT OPTIONS

- > **SMART DB15 CONNECTOR**
Contains all the calibration data
- > **ANALOG OUTPUT**
When used with APM analog power supply module
- > **integra ALL-IN-ONE-METER** (for THZ12D only)
Connects directly to a PC
Two models available:
 - USB output (-INT)
 - RS-232 output (-IDR)

COMPATIBLE DISPLAYS & PC INTERFACES



MIRO ALTITUDE



MAESTRO



U-LINK



M-LINK



APM
analog power module
(for THZ9D)

ACCESSORIES



Stand with steel post
(for THZ12D)



Stand with delrin
(for THZ9D)



SDC-500 digital
optical chopper



Pelican carrying case



Extension cables
(4, 15, 20 or 25 m)



	THZ9D-20mS-BL	THZI2D-3S-VP
MAX AVERAGE POWER	25 mW	3 W
EFFECTIVE APERTURE	9 mm ϕ	12 mm ϕ
COMPATIBLE DISPLAYS & PC INTERFACES	MIRO ALTITUDE, MAESTRO, U-LINK, M-LINK & APM	MIRO ALTITUDE, MAESTRO, U-LINK & M-LINK
MEASUREMENT CAPABILITY		
Spectral range ^a		
Frequency	0.1 - 30 THz	0.1 - 30 THz
Wavelength	3000 - 10 μ m	3000 - 10 μ m
Maximum average power		
with MAESTRO	20 mW	3 W
with U-LINK, M-LINK or MIRO ALTITUDE	25 mW	3 W
Noise equivalent power ^b	300 nW	0.5 μ W
Minimum measurable power ^c	N/A	50 - 100 μ W
Thermal drift	N/A	12 μ W/ $^{\circ}$ C
Rise time (nominal) ^d	< 0.2 s	3 s
Minimum repetition rate ^f	1000 Hz	7 Hz
Chopping frequency	10 Hz (required)	N/A
Calibration uncertainty ^g	\pm 5.0% at 10.6 μ m; \pm 15% at 10.6 - 440 μ m ^a	\pm 3.0% at 10.6 μ m \pm 8.0% at 10.6 - 300 μ m \pm 15% at 300 - 440 μ m
Repeatability	\pm 0.5%	\pm 0.5%
DAMAGE THRESHOLDS		
Maximum average power density ^h	50 mW/cm ²	30 W/cm ²
Maximum energy density	< 0.1 J/cm ²	< 1 J/cm ²
PHYSICAL CHARACTERISTICS		
Effective aperture	9 mm ϕ	12 mm ϕ
Absorber	BL (Black Absorber)	VP (Volume Absorber)
Dimensions	38.1 ϕ x 26.2 mm	73H x 73W x 28D mm (80D mm with tube)
Weight (head only)	91 g	320 g
ORDERING INFORMATION		
Compatible stand	STAND-D-233	STAND-D-233
Product page		

a. From 10 to 440 μ m, spectrometer measurement with multiple laser references validation.
From 440 to 600 μ m, spectrometer measurement only.
From 600 to 3000 μ m, relative measurement only.
This spectral range is subject to change.

b. Nominal value, actual value depends on electrical noise in the measurement system.

c. Actual value depends on ambient conditions and the measurement system.

d. With anticipation

e. Maximum output voltage = sensitivity x maximum power.

f. Minimum repetition rate for stable average power measurements.

g. Including linearity with power.

h. At 1064 nm, 1 W CW.