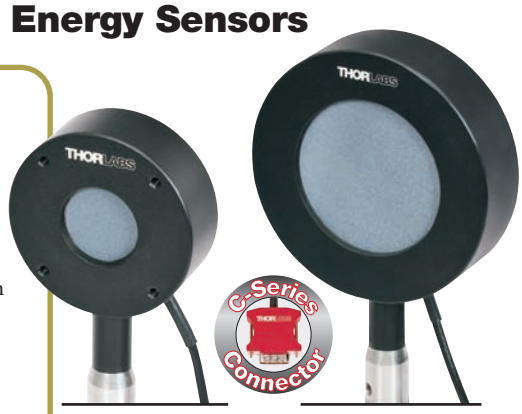
C-Series Excimer and YAG Pyroelectric Energy Sensors

Features

- Operating Range from 185 nm to 25 µm
- Energy Measurements from 500 µJ to 15 J
- High Damage Threshold Ceramic Coating
- Flat Response Over Wavelength Range
- Large Sensor Area
- Connect to C-Series Energy Meters or Oscilloscope via a BNC Connection
- NIST- and PTB-Traceable Data Stored in Sensor Connector
- Isolating Post Adapters Included
- ES220C is 30 mm Cage System Compatible
- Custom Sensors Available through Technical Support



ES220C ES245C

The ES200C series of energy sensors was designed for high energy densities and is capable of wavelength detection in the 185 nm to 25 µm spectral range with wavelength correction. A ceramic coating on the sensor allows for beams up to 0.45 J/cm^2 to be measured. The large Ø20 mm aperture on the ES220C enables usage with beam energies up to 3 J, while the ES245C's Ø45 mm aperture can measure beam energies up to 15 J. These sensors have been specifically designed for excimer, CO_2 TEA, and Nd:YAG lasers. When using pyroelectric energy sensors, it is best to fill ~80% of the aperture with the incident beam, which is an important consideration when choosing a sensor.

We individually calibrate these sensors and have stored NIST- and PTB-traceable data on EEPROM inside the C-Series connector. When connected to a C-Series energy meter, this calibration data is automatically downloaded by the meter for highly accurate measurements.

Meter Compatibility

Our energy sensors are compatible with our new C-Series energy meters, which currently include the PM200, PM100D, PM100USB, and PM320E. They can also be used with an oscilloscope via a BNC connection (1 MΩ), but the signal will only be indicative of the responsivity of the sensor and the calibrated power measurements. A BNC to C-Series DB9 adapter is included with each sensor.

Mechanical

Each sensor has an 8-32 threaded hole for post mounting, typically with a TR post (see page 93). For sensitive applications, we have included electrostatic insulating adapters with all of our energy sensors. A metric threading adapter for mounting on an M4 x 0.7 threaded post is included.

C-Series Connectors

Thorlabs' C-Series sensors use our red DB9 connectors, which provide better data transmission (via internal chip) to our meters than our previous sensors.

ITEM #	ES220C	ES245C
Wavelength Range	185 nm – 25 µm	
Optical Energy Range	500 µJ – 3 J	1 mJ – 15 J
Repetition Rate (Max)	30 Hz	
Energy Density (Max)	0.45 J/cm^2 (7 ns pulse @ 355 nm)	
Power Density (Max)	65 MW/cm^2 (7 ns @ 355 nm)	
Average Power (Max)	5 W	10 W
Resolution*	25 µJ	50 µJ
Measurement Uncertainty	±5%	
Detector Type	High Energy Pyroelectric Sensor	
Thermal Time Constant	20 ms	
Laser Types	Excimer, CO_2, TEA, Nd:YAG	
Aperture	Ø20 mm	Ø45 mm
Cable Length	1.5 m	
Mounting	8-32 Threaded Hole, M4 and Insulating Adapter Included	
Lens Tube Compatibility	N/A	
Cage Compatibility	30 mm	N/A
Console Compatibility**	PM200, PM100D, PM100USB, PM320E, Future C-Series Energy Meters, and Oscilloscopes	

*Measured with PM100D console. **Not backwards compatible.

ITEM #	$	£	€	RMB	DESCRIPTION
ES220C	$ 1,500.00	£ 1,080.00	€ 1.305,00	¥ 11,955.00	C-Series Pyroelectric Sensor, 185 nm – 25 µm, 500 µJ – 3 J
ES245C	$ 1,750.00	£ 1,260.00	€ 1.522,50	¥ 13,947.50	C-Series Pyroelectric Sensor, 185 nm – 25 µm, 1 mJ – 15 J
CAL-S200	$ 170.00	£ 122.40	€ 147,90	¥ 1,354.90	Recalibration Service for S300, S200, ES200, ES100