

CHAPTERS

Power Meters

Detectors

Beam
Characterization

Polarimetry

Electronics
Accessories

SECTIONS

Power Meters

Touch Screen Meter

Digital Meter

Analog Meter

Compact Sensor
Interface

Dual-Channel Meter

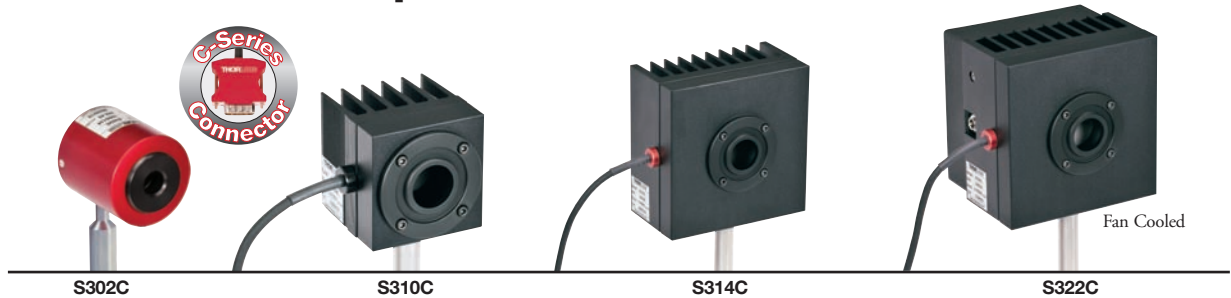
Photodiode Sensors

Thermal Sensors

Pyroelectric Sensors

Field Service

C-Series General-Purpose Thermal Sensors



Features

- 4 Models
 - Combined Wavelength Range: 190 nm - 25 μm
 - Combined Power Detection Range: 100 μW - 200 W
- High Temperature Alert Sensor
- Minimized Response Times
- Compatible with All C-Series Meters
- NIST-Traceable Data Stored in Connector

Thorlabs' general-purpose thermal sensors cover broad wavelength ranges and are for use with high-power lasers. These thermal sensors have a high temperature alert sensor, which will provide a warning to our power meters when the sensor overheats. While thermal sensors typically have slow response times, Thorlabs' C-Series sensors have been optimized to reduce this time. For instance, the response times of the S310C and S314C thermal sensors have been minimized to less than one second.

The S302C, S310C, S314C, and S322C are our general-purpose thermal sensors. Their flat spectral response is ideal for broadband measurements from 0.19 to 25 μm . The S310C, S314C, and S322C come with an externally SM1-threaded (1.035"-40) adapter, which is compatible with the S120 series of fiber connector adapters, allowing power measurements from FC, LC, SC, SMA, and ST connectorized fibers. Additionally, these three sensors are 30 mm cage system compatible (see pages 176 - 201) and SM1 lens tube compatible (see pages 134 - 152).

With the exception of the S322C, our general-purpose sensors are convection cooled. The S322C has forced air cooling via a fan on the back. A separate 12 VDC power supply is included with it. Each sensor is individually calibrated and shipped with a NIST-traceable calibration certificate. The calibration data is stored in the sensor's connector so that the meter's readings are wavelength corrected and accurate regardless of which power meter console is connected.

Have you seen our...

Compatible Power
Meters

See pages 1548 - 1559

ITEM #	S302C	S310C	S314C	S322C
Wavelength Range	0.19 - 25 μm		0.25 - 11 μm	
Optical Power Range	100 μW - 2 W	10 mW - 10 W	10 mW - 40 W	100 mW - 200 W
Max Intermittent Power (2 min Max)	2.5 W	15 W	60 W	250 W
Energy (Max)	N/A	10 J (Long Pulses)	40 J (Long Pulses)	200 J (Long Pulses)
Average Power Density (Max)	200 W/cm²		4 kW/cm²	
Energy Density (Max)	0.2 J/cm² (1 μs Pulse), 2 J/cm² (1 ms Pulse)		0.5 J/cm² (1 ns Pulse), 10 J/cm² (1 ms Pulse)	
Detector Type	Stabilized Thermal Absorber	Thermal Surface Absorber		
Cooling	Convection			Forced Air w/ Fan ^a
Resolution ^b	1 μW	200 μW	1 mW	5 mW
Measurement Uncertainty	±3% (1064 nm), ±5% (Over Rest)			
Response Time ^c	3 s	<1 s		1 s
Active Area	Ø12 mm	Ø20 mm	Ø25 mm	
Cable Length	1.5 m			
Mounting	60 mm Post Included w/ M4 Tap	75 mm Post Included (TR75/M) w/ M6 Tap		
Lens Tube Compatibility	External SM1 Threads			
Fiber Connector	Compatible with S120 Series Adapters			
Cage System Compatibility	N/A	30 mm		
Console Compatibility ^d	PM200, PM100D, PM100A, PM100USB, PM320E, and Future C-Series Power Meters			

^a 12 VDC power supply included.^b Measured with PM100D console; acceleration circuit switched off.^c Measured with display (0 - 90%).^d Only compatible with listed consoles.

ITEM #	\$	£	€	RMB	DESCRIPTION
S302C	\$ 690.00	£ 496.80	€ 600,30	¥ 5,499.30	C-Series Thermal Sensor, 0.19 - 25 μm , 100 μW - 2 W
S310C	\$ 690.00	£ 496.80	€ 600,30	¥ 5,499.30	C-Series Thermal Sensor, 0.19 - 25 μm , 10 mW - 10 W
S314C	\$ 855.00	£ 615.60	€ 743,85	¥ 6,814.35	C-Series Thermal Sensor, 0.25 - 11 μm , 10 mW - 40 W
S322C	\$ 1,260.00	£ 907.20	€ 1,096,20	¥ 10,042.20	C-Series Thermal Sensor, 0.25 - 11 μm , 100 mW - 200 W
S120-FC	\$ 38.00	£ 27.36	€ 33,06	¥ 302.86	Internally SM1-Threaded FC Fiber Adapter
S120-LC	\$ 48.00	£ 34.56	€ 41,76	¥ 382.56	Internally SM1-Threaded LC Fiber Adapter
S120-SC	\$ 48.00	£ 34.56	€ 41,76	¥ 382.56	Internally SM1-Threaded SC Fiber Adapter
S120-SMA	\$ 38.00	£ 27.36	€ 33,06	¥ 302.86	Internally SM1-Threaded SMA Fiber Adapter
S120-ST	\$ 38.00	£ 27.36	€ 33,06	¥ 302.86	Internally SM1-Threaded ST Fiber Adapter
CAL-S200	\$ 170.00	£ 122.40	€ 147,90	¥ 1,354.90	Recalibration Service for S300, S200, ES100, and ES200